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MAKİNA ve KİMYA ENDÜSTRİSİ KURUMU

MECHANICAL and CHEMICAL INDUSTRIES CORPORATION

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INFANTRY WEAPONS & SMALL ARMS AND FIREARMS

HEAVY WEAPONS

ROCKET AND MISSILE SYSTEM

SMALL ARMS AMMUNITION

AMMUNITION

PYROTECHNIC PRODUCTS

HUNTING RIFLES



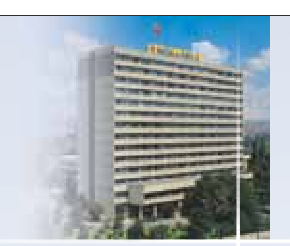
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Meeting Point of Technology and Experience

MKE, with its experience rooting to the 15-century, is the leading company in Turkish Defence Industry keeping the modern and high technology in priority.

MKE derives its strength from dedication to technology, unconditional costumer satisfaction and zero - error production performance at world class high technology plants in order to have a strategic position in the Global Market.

MKE, has been the main supplier of Turkish Armed Forces, under various names, since its establishment and gained its current legal status as a stage organization in 1950.

MKE, having a large range of products, not only serves the Turkish Armed Forces but also takes share in the International Defence Industry Market by exporting to more than 40 countries.

MKE with its 10 modern factories and 5633 experienced personnel, keeps its range of production in 4 main groups as follows.

. Ammunition Group
. Rocket Group
. Weapon Group
. Explosives / Powders and Pyrotechnic Products

MKE is proud to be awarded with latest AQAP and ISO certificates for both Head office and factories.

Being the dynamic meeting point of experience, knowledge and technology, MKE gained its own leading position in Turkish Defence Industry and will continue stepping forward in the Global Market



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7.62 mm MG3 *Machine Gun*
40 mm *Multiple Grenade Launcher*
7.62 mm BORA-12 *Sniper Rifle*
5.56 mm T-12 *Sniper Rifle*
7.62 mm G3-A3 & G3-A4 *Assault Rifle*
40 mm ST2 T-40 *Grenade Launcher*
5.56 mm HK 33 E-A2/A3 *Assault Rifle*
40 mm ST5-500 T-40 HK-33 E *Grenade Launcher*
5.56 mm MKE T-50 *Assault Rifle*
9mm MP5-A3 & MP5-K *Submachine Gun*
9mm MP5-A2/A4/A5 *Submachine Gun*
9mm MP5-MTS A2/A3 *Silenced Submachine Gun*
9mm MP5-MTS3 A2/A3 *Silenced Submachine Gun*
9mm MP5-K A4 / N *Submachine Gun*
9mm MP5-MTU *Submachine Gun (Automatic-Composite)*





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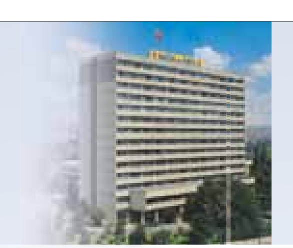
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INFANTRY WEAPONS & SMALL ARMS AND FIREARMS

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MKE SMALL ARMS WEAPON FACTORY KIRIKKALE

MKE Small Arms Weapon Factory has been producing to meet Turkish Armed Forces long barrel small arms weapon requirements, Security General Directorate weapon requirements, foreign weapon orders and domestic private security organizations weapon requirements.

The production range of the factory includes all kinds of pistols, rifles, submachine guns and all barrels are produced by the method of cold forging.

MKE Small Arms Weapon Factory is providing, applying and continuing TS EN ISO 9001:2008 Quality Management System and AQAP 2120 Quality Assurance System requirements for its manufacturing and productions.

The Factory's plants and facilities are capable of high quality production with CNC machines cold forging machines, heat treatment plant, plating plant, shooting range and calibration centre.







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7.62 mm MG3 *Machine Gun*



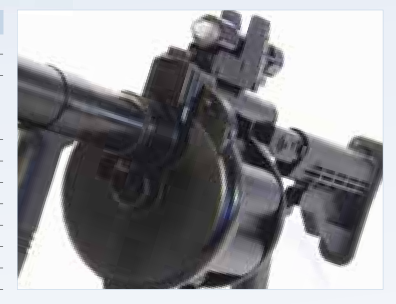


TECHNICAL SPECIFICATIONS	
Calibre	7.62 mm x 51
Magazine capacity	Ammunition belt
Type of fire	Auto
Muzzle velocity	820 m/sec
Barrel length	530 mm
Total length	1225 mm
Weight	11500 g
Rifling	4 grooves
Barrel life	8.000 rounds
Rate of fire	1150 rounds/min
Effective range	1200 m

40 mm *Multiple Grenade Launcher*

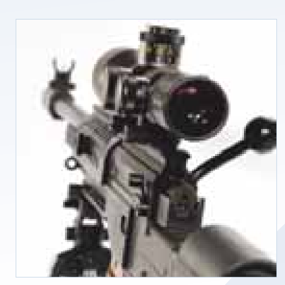


TECHNICAL SPECIFICATIONS	
Calibre	40 mm
Weight Unloaded	5,80 kg (max)
Length	
Butt Extended	803 mm
Butt Folder	718 mm
Barrel length	300 mm
Rifling	6 grooves. Right hand, one of turn in 1285mm
Rate of fire	max 6 rounds/ 10 seconds
Muzzle velocity	76 m / sec
Maximum range	400 m
Minimum range	100 m (training), 30 m (combat)
Maximum effective range	375 m (area targets) 150 m (point targets)



7.62 mm BORA-12 *Sniper Rifle*





TECHNICAL SPECIFICATIONS	
Calibre	7.62 mm x 51
Magazine capacity	10 cartridges
Type of fire	Manual mechanism (Bolt action), Single fire
Muzzle velocity	860 m/sec
Barrel length	660 mm
Total length	1235 mm (telescopic butt stock, height is adjustable)
Weight	6400 g
Rifling	4 grooves
Effective range	1200 m
Accuracy (MOA)	0,4
Trigger Force	1,5 – 2,5 kg

5.56 mm T-12 *Sniper Rifle*



TECHNICAL SPECIFICATIONS	
Calibre	5.56 mm x 45
Magazine capacity	15 / 30 cartridges
Type of fire	Single fire
Muzzle velocity	905 m/sec
Barrel length	500 mm
Total length	1070 mm (Retractable butt stock)
Weight	4850 g
Rifling	6 grooves
Barrel life	8000 rounds
Effective range	600 m

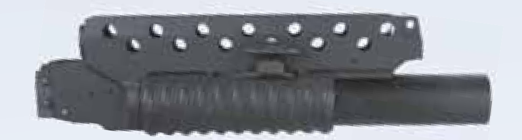


7.62 mm G3-A3 & G3-A4 *Assault Rifle*



TECHNICAL SPECIFICATIONS	A3	A4
Calibre	7.62 mm x 51	7.62 mm x 51
Magazine capacity	20 cartridges	20 cartridges
Type of fire	Single fire / Auto	Single fire / Auto
Muzzle velocity	750 m / sec (min)	750 m / sec (min)
Barrel length	450 mm	450 mm
Total length	1020 mm (Fixed butt stock)	835 / 1015 mm (Retractable butt stock)
Weight	4300 g	4700 g
Rifling	4 grooves	4 grooves
Barrel life	6000 rounds	6000 rounds
Rate of fire	620 rounds / min	620 rounds / min
Effective range	400 m	400 m

40 mm ST2 T-40 *Grenade Launcher*



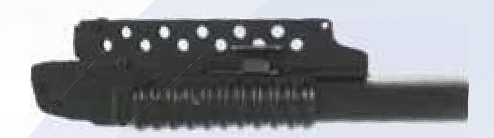
TECHNICAL SPECIFICATIONS			
Calibre	40 mm x 46	Rifling	6 grooves
Barrel length	305 mm	Muzzle velocity	75 m/sec
Total length	398 mm	Firing mechanism	Single shot
Height	107 mm	Maximum range	400 m
Width	76 mm	Effective range	350 m
Weight	1750 g	Locking System	Barrel locking lever
Barrel life	4000 rounds	Ammunition Feed	With hand, Single

5.56 mm HK 33 E-A2/A3 *Assault Rifle*



TECHNICAL SPECIFICATIONS	HK 33 E A2	HK 33 E A3
Calibre	5.56 mm x 45	5.56 mm x 45
Magazine capacity	30 cartridges	30 cartridges
Type of fire	Single fire / Auto / 3 Round burst	Single fire / Auto /3 Round burst
Muzzle velocity	840 m / sec (min)	840 m/sec (min)
Barrel length	390 mm	390 mm
Total length	920 mm (Fixed butt stock)	740 / 920 mm (Retractable butt Stock)
Weight	3900 g	3900 g
Rifling	6 grooves	6 grooves
Barrel life	8000 rounds	8000 rounds
Rate of fire	750 rounds/min	750 rounds/min
Effective range	400 m	400 m

40 mm ST5-500 T-40 HK-33 E *Grenade Launcher*



TECHNICAL SPECIFICATIONS			
Calibre	40 mm x 46	Rifling	6 grooves
Barrel length	305 mm	Muzzle velocity	75 m/sec
Total length	398 mm	Firing mechanism	Single shot
Height	121 mm	Maximum range	400 m
Width	88 mm	Effective range	350 m
Weight	1630 g	Locking system	Barrel locking lever
Barrel life	4000 rounds	Ammunition feed	With hand, Single

5.56 mm MKE T-50 *Assault Rifle*

TECHNICAL SPECIFICATIONS	
Calibre	5.56 mm x 45
Magazine capacity	30 cartridges
Type of fire	Single fire / Auto
Muzzle velocity	890 m / sec
Barrel length	390 mm
Total length	880 / 970 mm (telescopic butt stock)
Weight	3900 g
Rifling	6 grooves
Barrel life	8000 rounds
Rate of fire	750 rounds/min
Effective range	400 m



9 mm MP5-A3 & MP5-K *Submachine Gun*





TECHNICAL SPECIFICATIONS	MP5 A3	MP5 K
Calibre	9 mm x 19	9 mm x 19
Magazine capacity	15 / 30 cartridges	15 / 30 cartridges
Type of fire	Single fire / Auto	Single fire / Auto
Muzzle velocity	350 m / sec	325 m / sec
Barrel length	225 mm	115,6 mm
Total length	540 / 700 mm (Retractable butt stock)	325 mm
Weight	3000 g	2200 g
Rifling	6 grooves	6 grooves
Barrel life	10.000 rounds	10.000 rounds
Rate of fire	800 rounds/min	900 rounds/min
Effective range	100 m	100 m

9mm MP5-A2/A4/A5 *Submachine Gun*



MP5-A2 **Fixed Single Fire/Auto**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto	350 m / sec	225 mm	710 mm (fixed butt stock)	3000 g



MP5-A4 **Fixed Single Fire, 3 Round Burst**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto / 3 Round burst	350 m / sec	225 mm	710 mm (fixed butt stock)	3250 g



MP5-A5 **Retractable Single Fire, 3 Round Burst**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto / 3 Round burst	350 m / sec	225 mm	540 / 700 mm (Retractable butt stock)	3050 g

9mm MP5-MTS A2/A3 *Silenced Submachine Gun*



MP5-MTS A2 **Automatic-Fixed Silencer-Fixed**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto	240 m/s min.	146 mm	780 mm	3200 g



MP5-MTS A3 **Automatic-Fixed Silencer-Retractable**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto	240 m/s min.	146 mm	600/750 mm	3250 g

9mm MP5-MTS3 A2/A3 *Silenced Submachine Gun*



MP5-MTS3 A2 **Automatic-Fixed Silencer-Fixed**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto / 3 Round burst	240 m/s min.	146 mm	785 mm	3200 g



MP5-MTS3 A3 **Automatic-Fixed Silencer-Retractable**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto / 3 Round burst	240 m/s min.	146 mm	600/750 mm	3250 g

9mm MP5-K A4 / N *Submachine Gun*



MP5-K A4 **Covered Single Fire/Auto/ 3 Round Burst**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto / 3 Round burst	325 m / sec	115,6 mm	325 mm	2250 g



MP5-K N **Covered Single Fire/Auto/ 3 Round Burst**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto / 3 Round burst	325 m / sec	115,6 mm	380 mm	2200 g

9mm MP5-MTU *Submachine Gun (Automatic-Composite)*



MP5-MTU **Fixed Single Fire**

Type of fire	Muzzle velocity	Barrel length	Total length	Weight
Single fire / Auto	350 m / sec	225 mm	710 mm	3000 g





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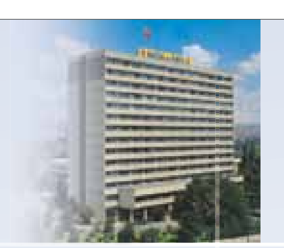
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HEAVY WEAPONS

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MKE HEAVY WEAPONS and STEEL FACTORY KIRIKKALE

MKE Heavy Weapons and Steel Factory has got **Single Barrel Heavy Weapon Production** in which there is 60 mm Commando Mortar, 81 mm UT1 Mortar, 120 mm HY1-12 Rifled Mortar, 155 mm 52 Caliber Modern Towed Howitzer (PANTER), Artillery Gun for Self Propelled Howitzer (FIRTINA) and **Steel Material Production** by means of Heat Treatment Facility, Electroslag Remelting Facility (ESR), GFM Continuous Forging Facility, GFU Continuous Forging Facility, 3,000 T Open Die Forging Press, Steelmaking Shop and Closed Die Forging Shop.

In Single Barrel Heavy Weapon Production there are two workshops one of which is Small Parts Manufacturing Workshop and the other one is Cannon Manufacturing Workshop:

1-Small Parts Manufacturing Workshop: All kinds of small parts manufacturing related with heavy weapon production, and machining of parts which are belonged to automative industry, various gears production are performed.

2- Cannon Manufacturing Workshop: There are turning line, CNC turning line, autfrettage facility, breech block and breech ring manufacturing line, assembly line.

Recently, MKE has been dealing with **train truck wheel** and has begun to invest for 9000 tons of mold die forging and 6000 tons of open die forging.





AQAP-2120

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20 mm Twin Barrel Anti-Aircraft and Infantry Support Gun

TECHNICAL SPECIFICATIONS	
Equipment	Oerlikon 20 mm Automatic Cannon
Type	GAI D01
Calibre	20 mm
Weapon weight	66 kg
Weight (Travelling position with ammunition)	1.800 kg
Barrel length	1.840 mm
Bullet weight	0,321 kg
Rate of fire	2x1.050 rounds/min
Trace	With optronic computerized
Motor power	5,15 kW(7HP DIN)
Muzzle velocity	HL 1150 m/sec
Rotation radius	3.000 mm
Rotation	Unlimited
Traverse	- 3°/+81°
Horizantal traverse (Angular speed)	Max (80°/sec)
Vertical movement (Angular speed)	Max (48°/sec)
Effective range	1.200 m (air targets) 2.000 m (ground targets)



25 mm Automatic Cannon



TECHNICAL SPECIFICATIONS	
Type	25 M811 GIAT
Calibre	25 mm
Total length	2630 mm
Total weight	113+8 kg
Height	370 mm
Width	345 mm
Barrel length	2.150 mm
Rate of fire	125-400 rounds/min
Ammunition feeding	Double feeding
Feeding time	3 min
Service time	16000 rounds
Belt feed	Continious 360°relative bearing aiming by turret rotation
Energy used	4600 W 650rpm 1200 W 400 rpm
Operation principal	External Power Supply
Empty case round	Forward
Rotation to target	-8° / +45°
Muzzle velocity	1360 m/sec
Effective range	1500 m

35 mm Twin Barrel Anti-Aircraft Gun

TECHNICAL SPECIFICATIONS	
Type	GDF-003
Calibre	35 mm
Total weight	6.800 kg
Barrel length	3.150 mm
Rate of fire	2 x 550 rounds/min
Armament	2 Cannons + 2 Generators + Radar
Muzzle velocity	175 m/sec
Rotation	Unlimited
Rotation to target	5°/+92°
Maximum rotation speed	2,095 rad/sec
Target selection	Ferranti GSAMK 3
Target seizure range	50 km
Target locking range	40 km
Effective range	4 km
Bullet weight	1562 g



40 mm Automatic Grenade Launcher



TECHNICAL SPECIFICATIONS	
Barrel Bore Diameter	40 mm
Weight	Gun: 33 kg, Cradle: 9.5 kg, Tripod: 20 kg, Total: 62.5 kg
Size (Length)	1097 mm
Width	340 mm
Height	225 mm
Rate of fire	Cyclic: 325-375 rds/min, Rapid: 60 rds/min, Sustained: 40rds /min
Muzzle velocity	242 m/sec
Maximum range	2500 m
Max. Effective range	1500 m
Barrel Size(Length)	414 mm
Rifling	24 groove
Ammunition Feed	From left
Bullet Type	HE, HEDP, TP

60 mm Commando Mortar

TECHNICAL SPECIFICATIONS	
Barrel inner diameter	60.7 ± 0.05 mm
Barrel outer diameter	66 mm
Barrel length	650 ± 1 mm
Total weight	7730 g
Maximum range	1500 m
Sighting unit	Special
Ammunition type	HE M49 A2 & TP M50 A2
Maximum pressure	250 bar
Rate of fire	20 rounds / min
Crew	1 person



81 mm UT-1 & NT-1 Mortar

TECHNICAL SPECIFICATIONS	UT-1	NT-1
Barrel inner diameter	81,4 mm	81,4 mm
Barrel outer diameter	99 mm	99 mm
Barrel length	1453 mm	1157 mm
Total weight	71.2 kg	58,85 kg
Barrel weight	28.1 kg	21,0 kg
Base plate weight	19,6 kg	15,35 kg
Bipod weight	23.5 kg	22.55 kg
Base plate diameter	550 mm	550 mm
Elevation range	620-1450 mil.	620-1450 mil.
Traverse range	90mil. (right and left)	90mil. (right and left)
Sighting unit	T-3	T-3
Maximum range	5900 m	3800 m
Maximum pressure	625 kg/cm²	375 kg/cm²
Rate of fire	15 rounds/min	20 rounds/min
Crew	3 persons	3 persons

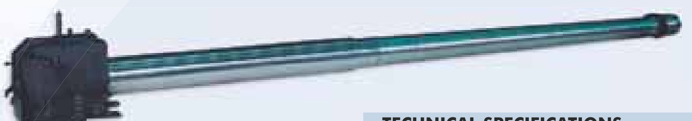


120 mm HY1-12 Mortar



TECHNICAL SPECIFICATIONS			
Barrel inner diameter	119.90 mm	Carriage weight	275 kg
Barrel outer diameter	160 mm	Elevation range	620-1510 mil.
Barrel length	1900 mm	Traverse range	250 mil. (right and left)
Length	3100 mm	Sighting	T-3
Width	1900 mm	Range unit	8000 m
Height	1350 mm	Maximum pressure	1230 kg/cm^2
Total weight	620 kg	Rifling	40 grooves
Barrel weight	143 kg	Rate of fire	7 rounds/min
Base plate weight	152 kg		

155 mm L-39 Weapon System



TECHNICAL SPECIFICATIONS	
Calibre	39
Material	35 NiCrMoV 12.5
Barrel external dia. (max)	344 mm
Barrel external dia. (min)	199 mm
Barrel diameter (nominal)	154,94 mm
Barrel diameter (max)	154,99 mm
Barrel length	6037 mm
Rifling	48 grooves
Barrel weight	1540 kg
Rate of firing	5 fire/min
Barrel life	10.000 rounds
Range	24 km
Breech ring weight	807 kg
Breech block weight	116,7 kg
Elevation values (min/max)	-5° / 65°
Chamber volume	18,9 lt (dm^3)

105 mm M68 T1 Tank Gun



TECHNICAL SPECIFICATIONS	
Bore diameter	105 mm
Total length	5550 mm
Total weight	1200 kg
Barrel length	5346 mm
Barrel weight	760 kg
Breech ring weight	320 kg
Breech weight	50 kg
Rifling	28 grooves
Rate of fire	6 rounds/min
Muzzle velocity	683 m/sec (with MKE MOD 233) 1485 m/sec (with APFSDS-T) 105 mm M68 T1 Tank Gun

M48 and Leopard A1-A4 Tank Modernization

TECHNICAL SPECIFICATIONS	
Main weapon	105 mm gun
Motor type	AVDS 1700-2C, 2CA
Transmission	CD 850-6A
Motor power	750 HP
Cooling system	Air cooled
Fuel type	Diesel (F54)
Electrical system	24 VDC
Range	482 km



155 mm 52 cal. Artillery Gun for Self Propelled Howitzer *(FIRTINA)*



TECHNICAL SPECIFICATIONS	
Combat Weight	47 tons
Length	12 m
Width	3.4 m
Height	3.43 m
Crew	5
Firing Control	Automatic
Round Loading	Automatic
Night Vision	Available
NBC Protection	Available
FIRING SYSTEM	
Barrel Inner Diameter/Dia. Length	155 mm, 52 Cal.
Rate of Fire	
Burst	3 rounds per 15 seconds
Maximum	6-7 rounds per 3 minutes
Sustained	2 rounds/minute
Firing Domain	
Elevation	-2.5/70 degree
Traverse	360 degree
Firing Range	
M107(HE)	18 km
M549A1/RAP(HE)	30 km
ERFB/BB(HE)	40 km+
MOBILITY	
Speed	65 km/h
Ground Clearance	0.42 m
Forward Slope Capability	60 %
Vertical Obstacle Crossing	0.75 m
Trench Crossing	2.8 m
Wading Crossing	1.5 m
Operational Range	360 km
POWER UNIT	
Engine	1000BG, MTU 881
Transmission	X1100-5A3 (Automatic)
Power/Weight Rate	21 BG/ton

WEAPON SYSTEM TECHNICAL SPECIFICATIONS	
Bore diameter	155 mm
Total weight	4339 kg
Barrel length	8095 mm
Barrel weight	2259 kg
Barrel type	Monoblock, forged tube with autofhratage
Breech ring weight	665 kg
Breech weight	95 kg Wedge type breech block
Rifling	48 grooves
Ignition type	Electro-Hydrolic servo system or manuel
Rate of fire	
Intense	6 rounds / min
Maximum rate	3 rounds / 15 sec
Sustained rate	2 rounds / min
Range	30 km (Modern Projectile)
	40 km (ERFB/Base Bleed Projectile)







155 mm 52 cal. Modern Towed Howitzer *(PANTER)*



TECHNICAL SPECIFICATIONS	
Barrel length	52 cal.
Combat weight	18000 kg
Barrel weight	2240 kg
Length (in towing position)	11.6 m
Height	2.6 m
FIRING SYSTEM	
Barrel inner diameter/Dia.Length	155 mm, 52 Cal.
Firing Range	
M107 (HE)	18 km
M549A1/RAP (HE)	30 km
ERFB / base bleed (HE)	40 km+
Firing domain	
Maximum elevation	-3/65 Degree

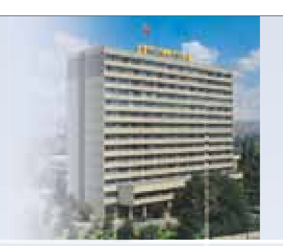
Rate of Fire:	
Normal	4-6 round/minute
Burst	3 rounds per 15 minutes
Sustained	2 round/minute
MOBILITY	
Self propelled speed (on road)	20 km/h
Self propelled speed (off road)	14 km/h
Self propelled speed (as towing)	60 km/h
Max. slope capacity	45%
Crew	5
POWER UNIT	
Engine type	Diesel
Engine power	110 KW











MKE HEAVY WEAPONS FACTORY / ÇANKIRI

Production facilities of MKE Çankırı Heavy Weapons Factory were established to manufacture 20 mm and 35 mm OERLIKON anti-aircraft guns. The factory has the capability of manufacturing processes such as machining, welding, surface and heat treatment applying the current technologies. The quality assurance system of the factory is certified in accordance with AQAP 2120.

20 mm and 35 mm OERLIKON anti-aircraft guns, 25 mm GIAT Automatic Cannon, 40 mm Revolver Grenade Launcher, 155 mm 52 Calibre Modern Towed Howitzer and some sub-assemblies of 155 mm Self-Propelled Howitzer in which there is Transfer arm assembly, Traverse gearbox and bracket assembly, Gun tube travel lock, cradle assembly, Track suspension hydraulic arm assembly, carriage assembly are the main products.

MKE Çankırı Heavy Weapons Factory is ready to serve;
- Turning, milling and honning machines (NC-CNC)
- NC Deep-hole drilling and honning machines (to 4000 mm)
- CNC Vertical and Horizantal milling machines.
- Gear Hobbing, Cutting, Grinding Machines
- Universal Cylindrical and Polygon Grinding Machines (Internal/External surface)
- Profile and Surface grinding machine (NC-CNC)
- CNC Electro-Erosion Machine
- Sheet Metal and Welding Workshop
- Heat Treatment workshop
- Plating workshop
- Paint workshop
- Material test laboratories
- Metrology and Calibration room

Beside these, MKE Çankırı Heavy Weapons Factory is ready to meet all domestic and international demand in military or civilian projects.





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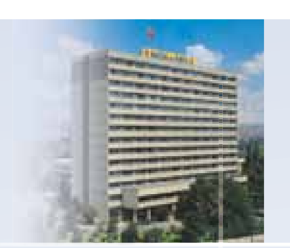
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2.75 inch *Folding-Fin Aerial Rocket (FFAR)*
66 mm *HAR Weapon System*
66 mm *AP Rocket*
21 mm *HAR Subcaliber Training System*
TAMKAR *Mined Field Clearing System (For Vehicles)*
TAMGEÇ *Mined Field Clearing System (For infantry troops)*
122 mm *Artillery Rocket*
107 mm *Multiple Launcher Rocket System*
Rocket Overhauling
Eryx Missile
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MKE ROCKET and EXPLOSIVE FACTORY ELMADAĞ

MKE Rocket and Explosive Factory has got two facilities, one of which is **Rocket Facility** consisting of double based solid rocket fuel production line, machining production line, coating, mechanical and chemical laboratories, nondestructive testing laboratories and rocket assembly lines and the other one is **Explosive Facility** producing commercial and high explosive materials, consisting of Dynamite, Trinitrotoluen (TNT) ve Dinitrotoluen (DNT),Types of acids, Secured Detonator, Black powder and Propelling charge workshops.

MKE Rocket and Explosive Factory mainly produces beginning from **Military Explosives and Rockets** like M-72 HAR Rocket, TAMKAR Mined Field Clearing System (For Vehicles), TAMGEÇ Mined Field Clearing System (For Infantry troops), Artillery Rocket, Eryx Missile, Mortar Propellant Powder, Propellant Powder,Aircraft Bomb, Training Bomb to **Civilian Products** like Dynamites (Gelatin Dynamites, Seismic Dynamites, Grizutin Dynamites, Gom2A1 dynamites ve Elbar-1 dynamite), Baranfo powder explosives (Baranfo-A1, -A2, -50, -60, -70, -80, -100), Anfo (Elbar5 and Elbar100), Safety fuses, Various Black Powders, Various Acids.

MKE Rocket and Explosive Factory has been continuing its contribution for 80 years to the national economy by producing unmilitary explosives to be used at underworks like barages, motorways, tunnels, village and forest roads, petrol pipelines, mines and stone quarries, hydroelectric and thermal power stations except for military explosives and rocket manufactures intended for country defense of MKE .





AQAP-2120

Member of



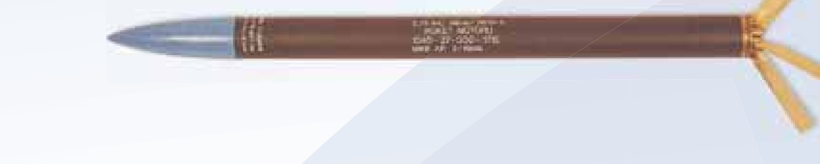
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2.75 inch Folding-Fin Aerial Rocket (FFAR)

TECHNICAL SPECIFICATIONS	
Operation	Unguided, Air to ground MK 40 / MK 4 Motors
Overall Length	1.4 m with M 151 fuze and M 151 warhead)
Diameter	2,75" (70 mm)
Weight before firing	9,3 kg (MK40, M 151 fuze and M151 warhead)
Operation temperature	- 54°C and -+ 65°C
Burn out time	1,42 sec.
Range	7 km (Ground to Ground max.)
Propellant type	Double Base N5
Warhead	Miscallenous
Weight	9.3 kg (Motor and warhead)
Burn-out velocity	0.73 km/sec (Launched by high speed aircraft)
Burn-out velocity	0.64 km/sec (Launched by helicopters)





66 mm HAR Weapon System





TECHNICAL SPECIFICATIONS	
Operation	Single shot disposable launcher
Calibre	66 mm
Overall length of launcher	650 mm (Closed) 878 mm (Extended)
Weight of complete system	1,6 kg
Launcher weight	1,1 kg
Warhead weight	500 g
Number of steel ball	3400
Initial velocity of steel ball	1100-1200 m/sec
Effective diameter at target	20 m
Operation and storage temperature	-40°C and -+60°C
Propellant type	M7
Warhead type	Anti-Personnel (Pre fragment-Steel Ball)
Effective range	350 m

66 mm AP Rocket



TECHNICAL SPECIFICATIONS	
Operation	Single shot disposable launcher
Calibre	66 mm
Overall length of launcher	
Closed	650 mm
Extended	878 mm
Weight of complete system	2,4 kg
Launcher weight	1.1 kg
Operation and storage temperature	-40°C -+60 °C
Propellant type	M 7
Warhead type	Anti-Tank (shaped charge)
Effective range	200 m
Flight Time(200 m)	1,6 sec.
Fuze	M 412 A 1
Penetration (RHA)	300 mm

21 mm HAR Subcaliber Training System



SUBCALIBER PRACTICE ROCKET

TECHNICAL SPECIFICATIONS	
Operations	Training system of HAR
Calibre	21,45 mm
Overall length of launcher	650 mm closed-878 mm extended
Weight of rocket	192 g
Launcher Weight	1.1 kg
Propellant Type	M7
Warhead type	No Warhead
Effective Range	200 m
Fuze	No fuze

TAMKAR Mined Field Clearing System

(For Vehicles)

TECHNICAL SPECIFICATIONS	
Dimensions of the cleaned area	
Length	100 m
Width	10 m
Depth	1 m
Dimensions of the cleaned area may change depending on the soil type.	
Percent of mine destroyed	99%
Types of mines cleared	Effective to pressure and single impulse types (TM-45, TM-57, TMKR-2, MK-56 and similar mines.)
Safety Distance	80 m from the border of minefield.
Trailer Weight	1390 kg
Total Weight of the System	Included Trailer, Launcher, Explosive Line and Rocket Group Together 2750 kg
Service and Storage Temperature Interval	-30 °C to +52°C
Shelf Life	10 years
Personnel needed for operating For	
Loading	2 persons
For Launching	1 person



TAMGEÇ Mined Field Clearing System

(For infantry troops)



TECHNICAL SPECIFICATIONS	
Enviromental Conditions	
For Operations	Foggy, rainy, snowy, windy weather conditions
Type of Ground to be operated	All kind of ground in which fixing bar could be placed.
Dimensions of the cleared areea	
Length	50 ± 3 m
Width	0.4 ± 0.1 m
Dimensions of the cleared area may change depending on the soil type of the minefield.	
Percent of mine destroyed	95%
Total Weight of the System	63 kg max.
Safety Distance	30 ± 3 m from the border of minefield
Service and Storage Temperature Interval	-40 °C to +50 °C
Shelf life	5 years in appropriate storage conditions (The battery has to be checked once a year during the periodic control)
Personnel needed for operating	
For Transport	2 persons
For Operation	1 person
Main units performing one or more basic functions of mine breaching system consists of transportation system, propulsion system, ignition/detonation system and mine clearing systems.	

122 mm Artillery Rocket





TECHNICAL SPECIFICATIONS	
Operation	Artillery, unguided, ground to ground
Calibre	122 mm
Length of complete system	2877,6 mm with blind fuze
Warhead propellant	Comp B
Weight of complete system	67500 g
Propellant type	Double base
Fuze	Mechanical fuze with short & long delay
Dispersion (CEP)	1 %
Maximum Range	20000 m
Minimum Range	3000 m

107 mm Multiple Launcher Rocket System

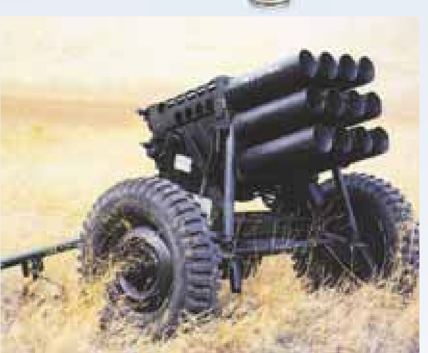
107 mm Artillery Rocket

TECHNICAL SPECIFICATIONS	
Operation	Artillery, unguided
Calibre	107 mm
Overall Length (complete)	840 mm
Warhead type	Mod 247 HE
Propellant type	Extruded double base
Weight of complete system	19,3 kg
Fuze	PD(point detonating) mechanical fuze
Maximum velocity	375 m / sec
Maximum range	8000 m
Minimum range	3000 m
Rate of fire	12 rounds in 7~9 seconds
Reloading time	3 minutes
CEP	2% at maximum range



107 mm Multiple Launcher

TECHNICAL SPECIFICATIONS	
Range	12 pcs
Height	0°/+55°
Width	435 kg (empty) 663 kg (with 12 rockets)
Length	2.525 mm
Weight	1.525 mm
Elevation	1.600 mm
Multi- barrels	8 km



Rocket Overhauling

MKE Rocket and Explosive Factory, being the licensed manufacturer of 122 mm Grad Rockets and similar artillery rocket systems has got the proficiency of being able to do

- Testing
- Controlling
- Renovation
- Extension of life according to procedures.

At each phase, all necessary tests are fulfilled.

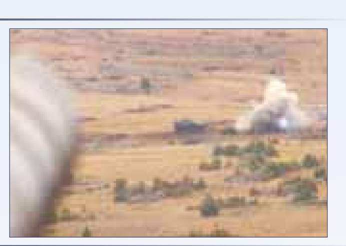


Eryx Missile

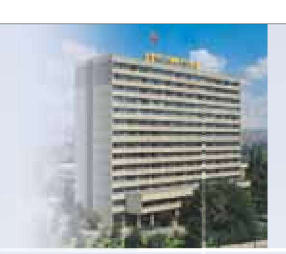
TECHNICAL SPECIFICATIONS	
Operation	Guided, anti-tank rocket
Maximum range	600 m
Minimum range	50 m
Weight of complete system	17.5 kg
Ammunition weight	13 kg
Ammunition length	925 mm
Warhead propellant	RDX-WAX (front) – Cyclotol (main)
Muzzle velocity	18 m / sec
Maximum velocity	260 m / sec
Propellant type	Cast double base extruded propellant
Accuracy	>900 mm RHA
	< 2.3 m concrete











MKE MACHINERY and GAS MASK FACTORY ANKARA

MKE Machinery and Gas Mask Factory named as Maksam has succeeded following projects;

M48 Tank Modernization Kits
Upgrading of Leopard A1/A4 Tanks Kits and Spare Parts
Warfare Fortification Vehicles Kits
Modernization of M113 Armoured Personnel Carrier Spare Parts

Also it has been continueing to produce 2,75 inch Launcher System and has some other production capabilities like; M48-M60 Track Shoes Production, T155 Part of Modern Towed Howitzer (Panter), T155 mm 52 cal. Artillery Gun for Self Propelled Howitzer Kits (Fırtına), Chaff Launcher System Production, Gas Masks Production, Gas Masks Canister Filter Production (NBC and Industrial Type), Mine Laying System and Mine Detonation System, Mobile Radar Carrying Pallets, Steel Construction Barracs Production and Montage, Various Types of Steel Frames and Various Types of Machine.

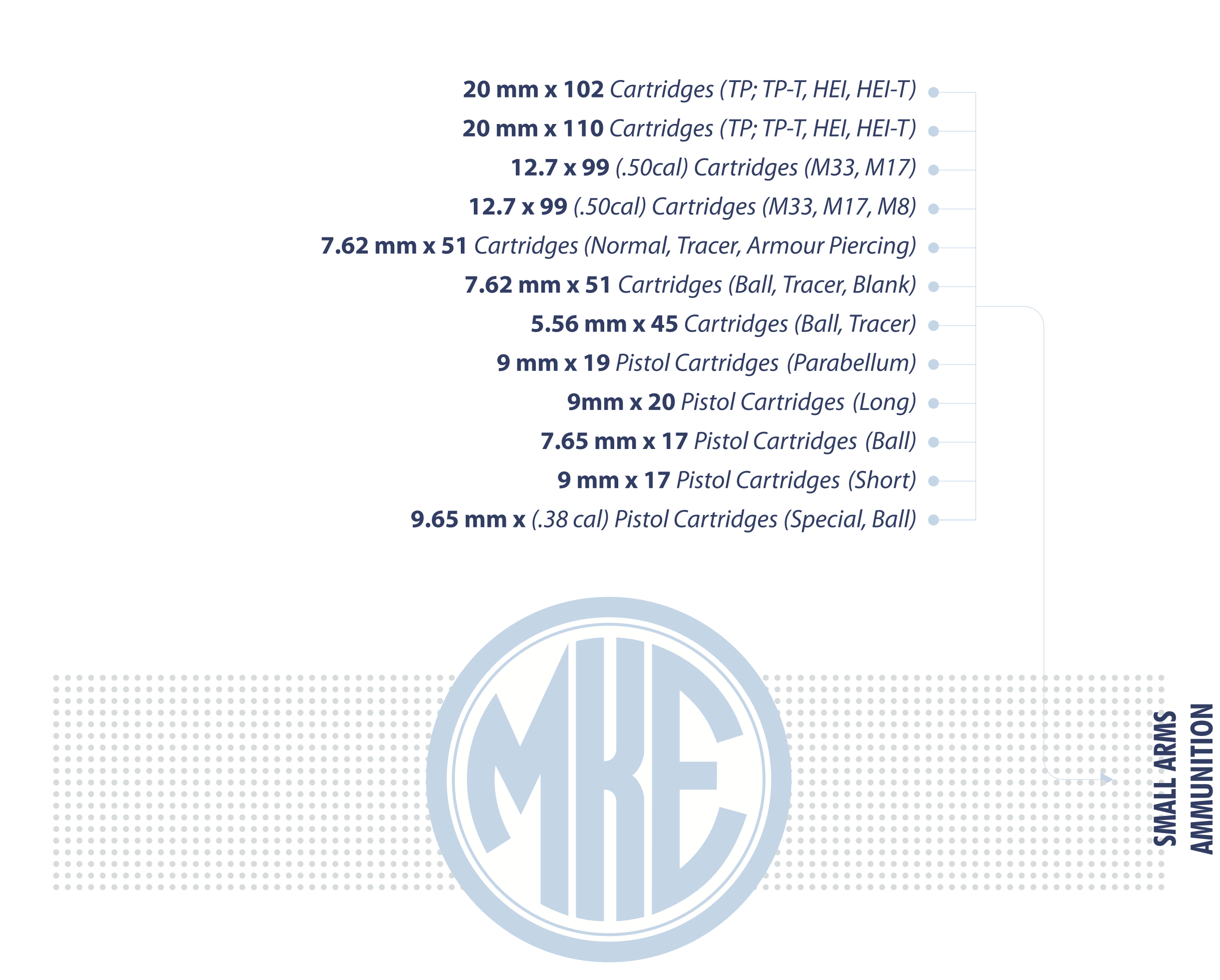




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MAKİNA ve KİMYA ENDÜSTRİSİ KURUMU

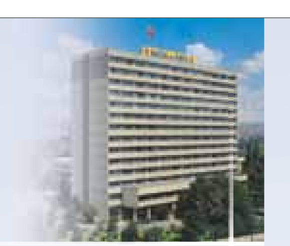
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MKE GAZI SMALL ARMS AMMUNITION FACTORY ANKARA

MKE Gazi Small Arms Ammunition Factory premises were founded in 1955 and started its production in 1957 to meet the small arms ammunition requirements of Turkish Armed Forces and Security Organizations.

MKE Gazi Small Arms Ammunition Factory has the capability to produce beginning from primers to every ammunition part. All of its production is suitable for Nato Standards, Military Specifications and other international standards.

Gazi Small Arms Ammunition Factory also produces Cartridge Production Tools and Gauges necessary for the range of cartridges.

The Factory is certified with AQAP-2120 and TS-ISO-EN 9.000 Quality Assurance Certifications.

The production process is audited and inspected with manufacturer quality control, Quality Unit inspections, Quality Inspections of Quality Representative of Ministry of National Defence.





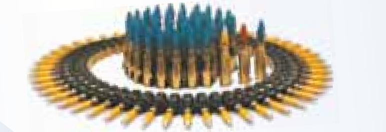
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20 mm x 102 Cartridges *(TP; TP-T, HEI, HEI-T)*



TYPE	M 55 A2 TP CARTRIDGE	M 55 A2 TP-T CARTRIDGE, TRACER	M 56 A3 HEI CARTRIDGE	M56 A3 HEI-T CARTRIDGE
Specification	Mil C 46552 C (7 May 1976)	Mil C 60609 A (20 April 1973)	Mil C 46578 D (12 December 1983)	Mil C 60836 A (ar)
Cartridge length	Max. 168,02 mm	Max. 168,02 mm	168,02+1,78 mm	168,02+1,78 mm
Cartridge weight	~255 g	~ 254 g	~ 258 g	~ 263 g
Velocity (23,7 m)	1030 ± 15 m /sec	1030 ± 15 m /sec	1030 ± 15 m /sec	1030 ± 15
Velocity standard deviation	Max. 12,19 m /sec	Max. 12,19 m /sec	Max. 12,19 m /sec	Max. 12,19 m /sec
Mean pressure	Max. 4255 kg/cm²	Max. 4255 kg/cm²	Max. 4255 kg/cm²	Max. 4255 kg / cm²
Accuracy (232,4m)	Max. 16,15 cm	Max. 26,92 cm	Max. 16,15 cm	Max. 26,92 cm
Bullet extraction force	499 – 1179 kgf	499 – 1179 kgf	499 –1179 kgf	499 -1179 kgf
Action time	Max. 4 milisec	Max. 4 milisec	Max. 4 milisec	Max. 4 milisec
Tracer	-	Visible in air	-	Visible in air
Case model number	M 103	M 103	M 103	M 103
Case length	101,9 – 0,38 mm	101,9 –0,38 mm	101,9 - 0,38 mm	101,9 –0,38 mm
Case material	Brass (Cu Zn 30)	Brass (Cu Zn 30)	Brass (Cu Zn 30)	Brass (Cu Zn 30)
Bullet shell material	Steel (MKE - Ç 1025)	Steel (MKE - Ç 1025)	Steel (MKE - Ç 1040)	Steel (MKE - Ç 1040)
Bullet fuse type and material	Aluminium fuse	Aluminium fuse	M 505 A3	M 505 A3
Primer	M 52 A3 B1 electrical primer	M 52 A3 B1 electrical Primer	M 52 A3 B1 electrical primer	M 52 A3 B1 electrical primer
Link type	M12 - M14	M14 or M12 link	M12 or M14 link	M12 or M14 link
Powder	20 mm ball powder	20 mm Ball powder	20 mm ball powder	20 mm ball powder
Packing	1) 2 link strips containing 40 or 50 Cartridges in a T46 metal box and 20 Metal box in a pallet (total 1600 or 2000 cartridges) 2) Plastic seperator including 225 Cartridges in a T46 metal box and 20 Metal box in a pallet (total 4500 Cartridges)	M 39 , M61 , M 197 Cartridges in a T 46 metal box and 20 Metal box in a pallet (total 1600 or 2000 cartridges) 2) Plastic seperator including 225 Cartridges in a T46 metal box and 20 Metal box in a pallet (total 4500 Cartridges)	1) 2 link strips containing 40 or 50 Cartridges in a T46 metal box and 20 Metal box in a pallet (total 1600 or 2000 cartridges) 2) Plastic seperator including 225 Cartridges in a pallet (total 4500 Cartridges)	1) 2 link strips containing 40 or 50 Cartridges in a T46 metal box and 20 Metal box in a pallet (total 1600 or 2000 cartridges) 2) Plastic seperator including 225 Cartridges in a T46 metal box and 20 Metal box in a pallet (total 4500 Cartridges)
Stock No	1) M 14 Linked...1305 27 000 1077 2) M 12 Linked...1305 27 000 3) With plastic seperator...1305 27 005 5662	1) Unlinked...1305 27 000 1791 2) With plastic seperator... 1305 27 023 4353	1) M12 linked...1305 27 000 1079 2) M14 linked...1305 27 000 1720 3) With plastic seperator...1305 27 005 5663	M14 linked...1305 27 000 6077

20 mm x 110 Cartridges *(TP; TP-T, HEI, HEI-T)*

TYPE	TP (MKE MOD 1101) CARTRIDGE	TP-T (MKE MOD 1107) CARTRIDGE	HEI (MKE MOD 1102) CARTRIDGE	HEI-T (MKE MOD 1109) CARTRIDGE, TRACER
Specification	SIP (ORD – MKE) GF /11	SIP (ORD – MKE) GF /16	SIP (ORD – MKE) GF /13	SIP(ORD-MKE) GF/29
Cartridge length	max. 178 mm	max. 178 mm	max. 178 mm	max. 178mm
Cartridge weight	215 ±10 g	~ 220 g	~ 220 g	~ 223 g
Velocity	(23,7 m)945 ± 15,24 m/sec	945 ± 15 m/sec	945 ± 15,24 m/sec	(23,7 m)945 ± 15 m/sec
Velocity standard deviation	max. 12,19 m/sec	max. 12,19 m/sec.	max. 12,19 m /sec	max. 12,19 m /sec
Mean pressure	4255 Kg/cm2	max. 4255 Kg/cm²	max. 4255 Kg/cm²	max. 4255 kg / cm²
Accuracy	max 16,15 cm	max. 26,92 cm	max. 16,15 cm	max. 26,92 cm
Bullet extraction force	min. 250 Kgf	min. 250 Kgf	min. 250 Kgf	min. 250 Kgf
Bullet function			It creates hole,whose radius is Min. 6,5 cm, on aluminium sheet 182,88 ± 22,86 m away from barrel And 0,04 inch thick, by high explosion	It creates hole,whose radius is min. 6,5 cm, on aluminium sheet 182,88 ± 22,86 m away from barrel and 0,04 inch thick by high explosion.
Tracer		Visible min. 1,5 sec. in air.		Visible min. 1,5 sec. in air
Case model number	MKE MOD 1001 case	MKE MOD 1001 case	MKE MOD 1001 case	MKE MOD 1001 CASE
Case length	110,31–0,51mm	110,31 – 0,51 mm	110,31 - 0,51 mm	110,31 –0,51 mm
Case material	BRASS (CuZn30)	Brass (CuZn 30)	Brass(CuZn30)	Brass (CuZn30)
Bullet shell material	STEEL (MKE-Ç 1025)	Steel (MKE - Ç 1025)	Steel (MKE - Ç 1040)	Steel (MKE -Ç 1040
Bullet fuse type and material	ALUMINIUM FUSE	Aluminium fuze	M 505 A3 fuse	
Primer	12,7 mm (.50 cal) primer	12,7 mm (.50 cal) primer, boxer	12,7 mm (.50 cal) primer,	12,7 mm (.50 cal) primer, boxer
Type of propellant	20 mm ball powder	20 mm ball powder	20 mm ball powder	20 mm ball powder
Packing	180 cartridges with carton tubes in a T 46 metal box and 20 T 46 metal boxes in a pallet (total 3600 cartridges)	180 cartridges with carton Tubes in a T 46 metal box and 20 metal T 46 box in a pallet (total 3600 cartridges)	180 cartridges with carton tubes in a T46 metal box and 20 metal box in a pallet (total 3600 cartridge)	Packing180 cartridges with carton Tubes in a T 46 metal box and 20 metal T 46 box in a pallet (total 3600 cartridges)
Stock No	1305 27 000 4278	1305 27 000 3433	1305 27 000 4279	1305 27 003 9976

12.7 x 99 *(.50cal)* Cartridges *(M33, M17)*

TYPE	(M33) CARTRIDGE	(M17) CARTRIDGE
Specification	MIL C 10190 D (AR)	MIL C 1318 B
Cartridge Length	138,43 - 1,27 mm	138,43 – 1,27 mm
Cartridge Weight	~ 115 g	~ 114 g
Velocity (23,7 m)	887 ± 9,2 m/sec	872 ± 12 m/sec
Velocity standard deviation	Max. 11 m/sec	Max. 18 m/sec
Mean pressure	Max. 3867 kg/cm²	Max. 3797 kg/cm²
Accuracy (232,4m)	Max. 12,93 cm	Max. 21,54 cm
Bullet extraction force	Min. 90 kgf	Min. 90 kgf
Tracer		Tracer shall be visible min. 80 % of the bullets
Case model number	12,7 mm x 99 case	12,7 x 99 case
Case material	Brass (Cu Zn 30)	Brass (Cu Zn 30)
Bullet material	Gilding metal, steel core, borax	Gilding metal, lead, antimony alloyed and tracer composition
Primer	12,7 mm primer, boxer	12,7 mm primer, boxer
Link type	M 9 or M15 A2 Link	M 9 or M 15 A2 link
Powder	Ball powder	Ball powder
Packing	1)100 cartridges M9 linked in a MKE S1 metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet. (total 9000 cartridges)	1) 100 cartridges M9 linked in a MKE S1 metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet. (total 9000 cartridges) 2) 80 cartridges M15 A2 linked in a MKE S1 metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 Wire bounded wooden boxes in a pallet (total 7200 cartridges)
Stock no	M9 Linked 1305 27 000 0035	Unlinked ... 1305 27 000 2045

12.7 x 99 *(.50cal)* Cartridges *(M33, M17)*

TYPE	(4M33 + 1M17) CERTRIDGE	4 M8 + 1M17 CARTRIDGE
Specification	M33... MIL C 10190 D (AR), M17... MIL C 1318 B (3 April 1985)	M8 ... MIL-C-3066 C(AR), M17... MIL-C-1318 B (3 APRIL 1985)
Cartridge length	138,43 – 1,27 mm	138,43 – 1,27 mm
Cartridge weight	M 33... ~ 115 g, M17... ~ 114 g	M8 ... ~110,8 g, M17 ... ~ 114 g
Velocity (23,7 m)	M33 ...887± 9,2 m/sec , M17....872 ± 12 m/sec	M8 ... 887 ± 9,15 m/sec, M17 ... 872 ± 12 m/sec
Velocity standard deviation	M33 ...max. 11 m/sec, M17 ...max. 18 m/sec	M8 ... max. 11 m/sec, M17 ... max. 18 m/sec
Mean pressure	M33 .....max. 3867 Kg /cm² , M17 .....max. 3797,5 Kg/cm²	M8 ... max 3867 Kg /cm², M17 ... max 3797 Kg/cm²
Accuracy (232,4m)	M33 max. 12,93 cm, M17 ...max. 21,54 cm	M8 ... max. 12,93 cm, M17 ... max 21,54 cm
Bullet extraction force	min. 90 Kgf	min. 90 Kgf
Tracer	Trace shall be visible min. 80 % of the bullets	Trace shall be visible min. 80 % of the bullets
Armour piercing		At least 80% of bullets will be pierce 7/ 8 inch. Thick plate at a range of 92 meters from weapon
Casemodel number	12,7 x 99 mm case	12,7 x 99 mm case
Case material	Brass (CuZn30)	Brass (CuZn30)
Bullet material	M 33 : Gilding metal, steel core , borax ; M17 : gilding metal, lead - antimony alloyed and tracer composition	M8 : gilding metal, steel core, chemicals M 17 : gilding metal, lead antimony alloyed and tracer composition
Primer	12,7 mm primer, boxer	12,7 mm primer, boxer
Link type	M9 or M15 A2 link	M9 OR M15 A2 link
Powder	Ball powder	Ball powder
Packing	1)100 cartridges M9 linked in a MKE S1 metal box , two MKE S1 metal boxes in a wire bounded wooden box and 45 Wire bounded wooden boxes in a pallet (total 9000 cartridges) 2)80 cartridges M15 A2 linked in a MKE S1 metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 Wire bounded wooden boxes in a pallet (total 7200 cartridges)	1)100 cartridges M9 linked in a MKE S1 metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet. (total 9000 cartridges) 2)80 cartridges M15 A2 linked in a MKE S1 metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet (total 7200 cartridges)
Stock no	M9 linked........... 1305 27 000 0037, M15 A 2 linked......1305 27 001 2723	M9 linked ... 1305 27 000 1074, M15 A2 linked ... 1305 27 003 9974

9 mm x 19 Pistol Cartridges
(Parabellum)



TYPE	CARTRIDGE, PARABELLUM
Specification	AC 225 (PANEL III / SP.1) D /170, STANAG 4090
Cartridge length	29,69 – 0,3 mm
Cartridge weight	~12,15 g
Velocity	370 ± 10 m/sec (at 16 m)
Velocity standard deviation	Max. 9 m/sec
Mean pressure	Max. 2601 Kg/cm²
Accuracy	Max. 7,6 cm (at 46m)
Bullet extraction force	Min. 20,4 Kgf
Case model number	9 mm x 19 mm Parabellum case
Bullet type	Fmj, bullet cup brass (CUZN36) and bullet core (lead-antimony alloyed)
Bullet weight	8 ± 0,075 g
Case material	BRASS (Cu Zn30)
Primer	9 mm primer, boxer
Powder	Ball powder
Packing	50 cartridges in a pvc separator , a pvc seperator ın a cardboard box, 12 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 90000 cartridges)
Stock No	1305 27 007 8111

9mm x 20 Pistol Cartridges
(Long)



TYPE	CARTRIDGE, LONG
Specification	MKE cartridge specifications dated in 1951
Cartridge length	27,5 + 0,5 mm
Cartridge weight	~11,2 g
Velocity (10 m)	340 ± 10 m/sec
Mean pressure	Max. 2000 Kg / cm²
Accuracy	Max. 9 cm (at 30 m)
Bullet extraction force	Min. 15 Kgf
Case type	9 mm x 20 mm CASE
Case length	19,9 + 0,30 mm
Bullet type	Fmj, brass and lead - antimony alloyed
Bullet weight	7,14 ± 0,1 g
Case material	Brass (CuZn30)
Primer	9 mm primer, boxer
Powder	Ball powder
Packing	50 cartridges in a pvc separator, one pvc seperator in a cardboard box, 12 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 90000 cartridges)
Stock No	1305 27 003 9956

7.62 mm x 51 Cartridges *(Normal, Tracer, Armour Piercing)*

TYPE	NORMAL CARTRIDGE (M80)	TRACER CARTRIDGE (M62)	ARMOUR PIERCING CARTRIDGE (M61)
Specification	STANAG 2310 and AC/225 (LG/3-SG/1) D/9	STANAG 2310, AC/225 (LG/3-SG/1)D/9	Mil - C- 60617 A
Cartridge length	71,12 - 0,60 mm	71,12 - 0,6 mm	71,12 – 0,6 mm
Cartridge weight	~ 24,5 g	~ 24 g	~ 24,5 g
Velocity (23,7 m)	827 ± 15 m/sec	838 ± 9,1 m/sec	838 ± 9,1 m/sec
Mean pressure	Max. 3300 kg/cm²	max. 3876 kg/cm²	Max. 9,75 m/sec
Action time	Max. 4 milisec	max. 4 milisec.	Max. 3876 kg/cm²
Accuracy(100 m)	Max. 3,5 cm	max. 4 cm	Max. 3,1 cm
Bullet extraction force	Min. 27 kgf	min. 27 kgf	Min. 27 kgf
Tracer		Trace shall be visible min. 80% of bullet	
Case model number	7,62 mmx 51 case	7,62mm x 51 case	7,62mm x 51 case
Case length			51,18-0,30 mm
Case material	Brass (Cu Zn 28 and Cu Zn 30)	Brass (Cu Zn 28 and Cu Zn 30)	Brass (Cu Zn 28 and Cu Zn 30)
Armour piercing			The bullet shall pass completely through a 10 mm mıld steel plate (SAE 1010 or 1020) at a range of 91 meters
Bullet material	Gilding metal, lead core (lead-antimony alloyed)	Copper plated steel jacket, lead core (lead - antimony alloyed), tracer composition	Copper plated steel jacket steel core and lead core (lead -antimony alloyed)
Primer	7,62 mm prımer, boxer	7,62 mm primer, boxer	7,62 mm primer, boxer
Powder	Ball powder	Ball Powder	Ball powder
Link type	M 13 link	M13 link	-
Packing	1)20 cartridges in a cardboard box, 10 cardboard boxes in a pvc bag, 5 Pvc bags in a wooden box,30 wooden boxes in a pallet (total 30000 cartridges) 2) 500 cartridges M13 linked in a MKE S1 metal box two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet (total 45000 cartridges)	1) 20 cartridges in a cardboard box, 10 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 30000 cartridges) 2) 500 cartridges M13 lınked ın a MKE S1 metal box , two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet (total 45000 cartridges)	20 cartridges in a cardboard box, 10 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box ,30 wooden boxes in a pallet (total 30000 cartridges)
Stock no	1) Cardboard boxed ...1305 27 001 2247 ; 2) M13 linked...1305 27 003 9969		1035 27 003 9968

5.56 mm x 45 Cartridges *(Ball, Tracer)*

TYPE	BALL CARTRIDGE (SS109/M855)	TRACER CARTRIDGE (L 110/M856)	CARTRIDGE 4 BALL + 1 TRACER
SpecifiHcation	STANAG 4172, AC/225(LG/3,SG/1) D/8 JANUARY 98	STANAG 4172,AC/225(LG/3,SG/1) D/8 JANUARY 98	STANAG 4172,AC/225(LG/3,SG/1) D/8 JANUARY 98
Cartridge length	57,4 – 0,7 mm	57,4 – 0,7 mm	57,4 – 0,7 mm
Cartridge weight	~12,5 g	~13 g	Ball...~12,5 g, tracer~13 g
Velocity (23,7 m)	914,4 ± 12,2 m/sec	880 ± 12 m/sec	Ball...914 ± 12 m/sec, tracer... 880 ± 12 m/sec
Mean pressure	max. 3876 Kg/cm²	Mean Pressuremax. 3876 Kg/cm²	Ball...Max. 3876 Kg/cm², tracer... Max. 3876 kg/cm²
Action time	max. 3 milisec.	max. 3,3 cm	
Accuracy(100 m)	max. 2,2 cm	max. 3 milisec.	Ball... Max.2,2 cm, tracer... Max.3,3 cmmax. 3,3 cm
Bullet extraction force	min. 20,4 Kgf	min. 20,4 Kgf	Min. 20,4 Kgf
Tracer		Trace shall be visible min. 80% of bullets	Trace shall be visible min. 80% of bullets
Piercing power	The bullet shall completely penetrate through 3,5mm steel plate (SAE 1010 or 1020) at a range of 570 meters.		The bullt shall completely penetrate through 3,5 mm stel plate (SAE1010 or 1020) at a range of 570 meters.
Case model numbe	5,56 mm x 45 CASE	5,56 mm x 45 CASE	5,56 mm x 45 Case
Case material	Brass (CuZn28 and CuZn30)	Brass (CuZn 28 and CuZn 30)	BRASS (CuZn28 and CuZn30)
Bullet material	Gilding metal, steel core and lead core (lead-antimony alloyed)	Copper plated steel, lead core (lead-antimony alloyed), tracer composition	Ball... gilding metal, steel core and lead core (lead – antimony alloyed), tracer ...copper plated steel, lead Core (lead - antimony alloyed) and tracer composition
Primer	5,56 mm primer, boxer	5,56mm primer, boxer	5,56 mm primer, boxer
Link type	M27 link	M27 link	M 27 link
Powder	Ball powder	Ball powder	Ball powder
Packing	1) 30 cartridges in a cardboard box, 15 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 67500 cartridges) 2) 800 cartriges M 27 linked in a MKE S1metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 Wire bounded wooden boxes in a pallet (total 72000 cartridges)	1) 30 cartridges in a cardboard box, 15 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 67500 cartridges) 2) 800 cartriges M 27 linked in a MKE S1metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 Wire bounded wooden boxes in a pallet (total 72000 cartridges)	800 cartridges M27 linked in a MKE S1 metal box, two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet (total 72000 cartridges)
Stock No	Cardboard boxed...1305 27 017 9197	1305 27 017 9201	1305 27 017 9202

7.62 mm x 51 Cartridges *(Ball, Tracer, Blank)*

TYPE	CARTRIDGE (4 Ball + 1 Tracer)	CARTRIDGE (4 M61 + 1 M62)	BLANK CARTRIDGE
Specification	STANAG 2310 VE AC/225 (LG/3-SG/1) D/9	M61... MIL - C - 60617 A; M 62 STANAG 2310, AC/225 (LG/3-SG/1) D/9	MIL - C - 46 933A (AR)
Cartridge length	71,12 - 0,60 mm	71,12 - 0,60 mm	63,15 ± 1,40 mm
Cartridge weight	M 80 ~ 24,5 g M 62 ~ 24 g	M 61...~ 24,5 g, M 62... ~ 24 g	~ 13 g
Velocity (23,7 m)	M 80...827 ± 15 m / sec, M62...838 ± 9,1 m/sec	M 61...838 ± 9,1 m / sec, M 62...838 ± 9,1 m/sec	
Mean pressure	M 80...Max. 3300 kg/cm²,M62...max. 3876 kg/ cm²	M 61...Max. 3876 kg/cm², M 62...max. 3876 kg/ cm²	Max. 2550 kg/cm²
Action time	M 80... Max.4milisec., M62... max. 4 milisec.		
Accuracy(100 m)	M 80... Max. 3,5 cm, M 62...max. 4,0 cm	M 61... Max. 3,1 cm, M 62...max. 4 cm	
Bullet extraction force	Min. 27 kgf	Min. 27 kgf	
Tracer	Trace shall be visible min. 80% of bullet	Trace shall be visible min. 80% of bullet	
Case model number	7,62 mmx 51 case	7,62 mmx 51 case	7,62 mm blank cartridge case
Case lenght			64,5 - 0,93 mm
Case material	Brass (Cu Zn 28 and Cu Zn 30)	Brass (Cu Zn 28 and Cu Zn 30)	Brass/Cu Zn 30)
Piercing power		The bullet shall pass completely through a 10 mm	
Bullet material	M80: gilding metal, lead core (lead-antimony Alloyed) M62 : copper plated stell jacket, lead core (lead - antimony alloyed) and tracer composition	M61... Copper plated steel, steel core and lead Core (lead antimony alloyed), M 62... Copper plated stell jacket, lead core (lead - antimony alloyed) and tracer composition	
Primer	7,62 mm primer, boxer	7,62 mm primer, boxer	7,62 mm primer, boxer
Link type	M13 link	M13 link	M 13 link
Powder	Ball powder	Ball powder	MKE, single based tubular powder
Packing	500 cartridges M13 linked in a MKE S1 metal box, Two MKE S1 metal boxes in a wire bounded wooden box and 45 wire bounded wooden boxes in a pallet. (total 45000 cartridges)	500 cartridges M13 linked in a MKE S1 metal box, Two MKE S1 metal boxes in a wire bounded wooden Box and 45 wire bounded wooden boxes in a pallet. (total 45000 cartridges)	1) 20 cartridges in a cardboard box, 10 cardboard Boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 30000 cartridges) 2) 500 cartridges M 13 linked in a MKE S1 metal box, Two MKE S1 metal boxes in a wire bounded wooden Box and 45 wire bounded wooden boxes in a pallet (total 45000 cartridges).
Stock No1)	1305 27 000 0005	1305 27 000 5228	1) Cardboard boxed…1305 27 002 3999 2) M13 linked………...1305 27 000 4852

7.65 mm x 17pistol Cartridges *(Ball)*

TYPE	CARTRIDGE, BALL
Specification	SIP-ORD-MKE-F-1 and CIP
Cartridge length	25 – 0,3 mm
Cartridge weight	~ 8,4 g
Velocity (10 m)	270 ± 10 m/sec
Mean pressure	Max. 1836 Kg / cm²
Accuracy	Max. 9 cm (at 25 m)
Bullet extraction force	Min. 20 Kgf
Case model number	7,65 mmx17 CASE
Case length	17,20 – 0,20 mm
Bullet type	Fmj , brass and lead –antimony alloyed
Bullet weight	4,55 ± 0,15 g
Case material	Brass (CuZn30)
Primer	7,65 mm primer, boxer
Powder	Ball powder
Packing	1) 25 cartridges in a pvc separator , a pvc seperator in a cardboard box, 24 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 90.000 cartridges) 2) 25 cartridges in a PVC separator, a PVC seperator in a cardboard box, 20 cardboard boxes in a pvc bag, 3 PVC bags in a cardboard box, 60 cardboard boxes in a pallet (total 90000 cartridges)
Stock no	No1305 27 007 7590

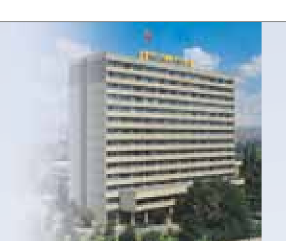
9 mm x 17 Pistol Cartridges *(Short)*

TYPE	CARTRIDGE, SHORT
Specification	MKE cartrıdge specıfıcatıons dated in 1951
Cartridge length	27,5 + 0,5 mm
Cartridge weight	~11,2 g
Velocity	(10 m)340 ± 10 m/sec
Mean pressure	max. 2000 Kg / cm²
Accuracy	max. 9 cm (at 30 m)
Bullet extraction force	min. 15 Kgf
Case type	9x20 mm CASE
Case length	19,9 + 0,30 mm
Bullet type	Fmj, brass and lead - antimony alloyed
Bullet weight	7,14 ± 0,1 g
Case material	Brass (CuZn30)
Primer	9 mm primer, boxer
Powder	MKE single based tubular powder
Packing	25 cartridges in a pvc separator, one pvc seperator in a cardboard box, 24 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 90.000 cartridges) 2) 25 cartridges in a PVC separator, a PVC seperator in a cardboard box, 20 cardboard boxes in a pvc bag, 3 PVC bags in a cardboard box, 60 cardboard boxes in a pallet (total 90000 cartridges)
Stock No	1305 27 003 9956

9.65 mm x *(.38 cal)* Pistol Cartridges *(Special, Ball)*

TYPE	(.38 cal) CARTRIDGE, SPECİAL	(.38 cal) CARTRIDGE, BALL
Specification	MKE cartridge specification dated on March, 1st ,1969	(.38 cal.) Normal pistol cartridge specification
Cartridge length	38,86 + 0,5 mm	30,6 + 1 mm
Cartridge weight	~15, 8 g	~15,7 g
Velocity (10 m)	260 ± 10 m/sec	180 ± 10 m/sec
Mean pressure	Max. 950 Kg / cm²	Max. 1500 Kg / cm²
Accuracy	Max. 4 cm (at 25m)	Max. 9 cm (at 30 m)
Bullet extraction force	Min. 20 Kgf	Min. 15 Kgf
Case model number	9,65 mm Specıal case	9,65 mm Normal case
Case length	29,75- 0,25 mm	19,23 + 0,25 mm
Bullet type	Fmj, gilding metal and lead - antimony alloyed	Fmj, brass and lead - antımony alloyed
Bullet weight	~10,2 g	11,5 ± 0,1 g
Bullet material	Brass (CuZn30)	BRASS (CuZn30)
Primer	9 mm primer, boxer	9 mm primer, boxer
Powder	Ball powder	Ball powder
Packing	50 cartridges in a pvc separator , one pvc seperator in a cardboard box, 12 cardboard boxes in a pvc bag, 5 pvc bags in a wooden box, 30 wooden boxes in a pallet (total 90000 cartridges)	25 cartrıdges in a PVC separator , one PVC seperator in a cardboard box, 24 cardboard boxes in a PVC bag, 5 PVC bags in a Wooden box, 30 wooden boxes in a pallet (total 90000 cartridges)
Stock No	1305 27 001 2253	1305 27 001 2248





MKE BRASS FACTORY / KIRIKKALE

MKE Brass Factory is the first factory in the area of copper and copper alloy production of Turkiye. Production of the factory complies with EN and ASTM norms. It has AQAP 2120 Industrial Quality Assurance Level Certificate. MKE Brass Factory performs its production facilities for military and civil purposes.

It mainly has the capability of producing military products like case cups, case and bullet cups, Parabellum case and bullet cups, Browning case and bullet cups, brass discs, tubes for rotating bands, diameter brass bars; and civilian products like diameter brass bars, Various bronze casting.



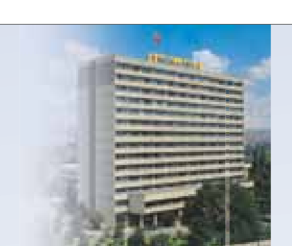




K - Q
TSE-EN-ISO
9001


25 mm *Ammunition*
35 mm *Anti – Aircraft Ammunition*
40 mm *Grenade Launcher Cartridges (MOD 60 HE, TP-T Tracer, MOD 63 GE)*
60 mm / 81 mm / 120 mm *Mortar Ammunition*
105 mm / 155 mm *Gun & Howitzer Ammunition*
8" *Howitzer Cannons Ammunition*
Fuzes for Ammunition
4.5 lb. & 25 lb. *Aircraft Practice Bombs*
500 lb. *Type MK82 Aircraft Bombs*
2000 lb. *Type MK 84 GP Aircraft Bombs*
Demolition Blocks
Hand Grenades
Propelling Charges
MKE
MAKİNA ve KİMYA ENDÜSTRİSİ KURUMU
MECHANICAL and CHEMICAL INDUSTRIES CORPORATION
AMMUNITION
AMMUNITION
meeting point of technology and experience
www.mkek.gov.tr





MKE HEAVY AMMUNITION FACTORY KIRIKKALE

MKE Heavy Ammnunition Factory is the oldest factory which was founded in the Republic Period. It has been one of the main suppliers of the Turkish Armed Forces with different types of ammunitions and it continues its production activities within three major production divisions called as Projectile, Fuze and LAP departments.

MKE Heavy Ammnunition Factory mainly produces beginning from Launcher Grenades, Mortar Ammunition, Gun Ammunition, Howitzer Ammunition, Rocket Warheads, Aircraft Bombs, Hand Grenades, Fuzes, Demolition Blocks and to Propelling Charges.

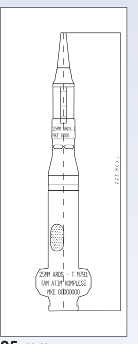


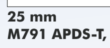
Member of SaSaD DEFENSE INDUSTRY MANUFACTURERS ASSOCIATION

K - Q TSE-EN-ISO 9001

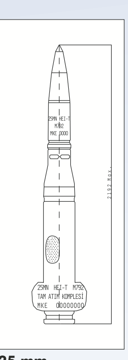
www.mkek.gov.tr

25 mm Ammunition

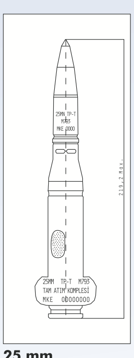




25 mm
M791 APDS-T,



25 mm
M792 HEI-T



25 mm
M793 TP-T



TECHNICAL SPECIFICATIONS

TYPE	25 mm M793 TP-T Ammunition	25 MM M792 HEI-T Ammunition	25 mm M791 APDS-T Ammunition
Projectile	Steel, 1215	Pusher (Al), Penetrating ass.	Steel, Ç1018
		(Tungsten), Sabot (Plastic)	
Projectile color	Body color is blue, Marking is black	Body color is black, marking is white	Body color is yellow, marking is black,
			red band.
Loading material	-	-	AXM-001 pellet
Detonator	M115 Percussion	M115 Percussion	M115 Percussion
Propellant type	Double base	Single base	Double base
Propellant weight	~ 0.089 kg (It must be readjustment	~ 0.096 kg (It must be readjustment	~ 0.089 kg (It must be readjustment
	after per propellant lot)	after per propellant lot)	after per propellant lot)
Fuze	-	-	M758 selfdestruct (If it didn't crush any
			target, it is burst after 6.2s) red band
Cartridge	10B30 steel	10B30 steel	10B30 steel
Range	~ 6000m. (at 650 milyem rising)	~17500 meter (at 746 milyem rising)	If it didn't crush any target, it is burst
			in the range os 3800-4500 m
Velocity	1100±20 m/s.(from the front of barrel)	1345±20 m/s. (from the front barrel)	1100±20 m/s. (from the front barrel)
Other Data For 1305 27 017 8905			
Name	25 mm M793	25 mm M791	25 mm M792
Packing length (cm)	134.5 TP-T amm.	134.5 APDS-T amm.	134.5 HEI-T amm.
Packing quantity/Palet	20 hermetic	20 hermetic	20 hermetic
Packing Width (cm)	106.5box/pallet	106.5 box/pallet	106.5 box/pallet
PCS./Packing	55 pcs/hermetic	55 pcs/hermetic box	55 pcs/hermetic box
Packing Height (cm)	87.2 box	87.2	87.2
Net Explosive (kg) /PCS	0.095	0.102	0.127
Packing Volume (cm^3)	1250000	1250000	1250000
Net Explosive	0.210	0.225	0.280
Shooting and Storage	-54 ±3, +62±3	-54±3,+62±3	-54±3,+62±3
Packing Form	Hermetic boxes	Hermetic boxes	Hermetic boxes
NSN No	1305 27 017 in the pallet 8905	1305 27 017 in the pallet 8889	1305 27 017 in the pallet 8896
KNOWLEDGE FOR RECOGNITION			
Model	M793	M791	M792
Length	219.2 mm	Max. 223 mm.	Max. 219.2 mm
Weight	~ 500 g	~ 500 g	~ 500 g
Diameter	25 mm	25 mm	25 mm
Weapon to be used	M242,KBA, M811,GAV-12	M242,KBA, M811,GAV-12	M242,KBA, M811,GAV-12

35 mm Anti – Aircraft Ammunition



TECHNICAL SPECIFICATIONS

TYPE	HE-I (MSD 020)	TP-T (ULD 034)	35 mm MOD356 Practice Ammunition
Weight	1570 g	1570 g	1490 g
Length	387 mm	387 mm	387 mm
Fuze	KZD 242	Dummy fuze	Dummy fuze
Filler	Hexal	-	-
Primer	WK ZSD 263	WK ZSD 263	-
Powder	NC.01.T.35. OE.M.SMS	NC.01.T.35. OE.M.SMS	- -
Muzzle velocity	1175 m/sec	1175 m/sec	KDP (353 MK) Gun
Weapon to be used	KDP (353 MK) Gun	KDP (353 MK) GUN	-
Maximum range	11000 m	11000 m	-
Effective range	6000 m	6000 m	

40 mm Grenade Launcher Cartridges
(MOD 60 HE, TP-T Tracer, MOD 63 GE)

TYPE	TP-T (Tracer)
Cartridge length	~101 mm
Cartridge weight	~222 g
Bullet extraction force	Min. 25 kgf
Tracer	Visible min 1,5 sec. in the air
Velocity standard deviation	Max. 1,5 m / sec
Velocity (10 m)	75 ± 5 m / sec
Mean pressure	3700 ± 200 kg / cm²
Effective range	Max. 350 - 400 m
Weapon to be used	Launcher assembled to G 3 weapon
Packing	24 cartridges in a separator, 3 separators in a T 46 metal box, 20 T 46 metal box in a pallet (total 1440 cartridges)
Case material	Aluminium
Bullet material	Aluminium
Primer	9 mm pistol cartridge primer, boxer
Stock no	1310 27 000 8608





TYPE	MKE MOD 63 GE (Tear Gas)	MKE MOD 60 HE
Weight	230 g	230 g
Weapon to be used	M 79, M 203, T 40	M 79, M 203, T 40
Filler	CS-CN (Riot Control)	Comp-B (32 g) TNT
Maximum range	400 m	400 m
Muzzle velocity	75 m / sec	76 m / sec

60 mm Mortar Ammunition

TECHNICAL SPECIFICATIONS

TYPE	M49 A2 HE	MKE MOD 256 Training	MKE MOD 257 Target Practice
Weight	1421 g	1365 g	1421 g
Length	242.8 mm	242.8 mm	242.73 mm
Fuze	AZDM 111 A2	Blind	AZMD 111 A2
Filler	TNT	Sand+wood shavings	Sorel cement
Propellant Cartridge		M5A1 (empty)	M5A1
Primer		M32 (empty)	M32
Muzzle velocity	158 m / sec	-	158 m / sec
Maximum range	1814 m	-	1814 m





81 mm Mortar Ammunition



TECHNICAL SPECIFICATIONS

TYPE	HE (MKE MOD 214)	TARGET PRACTICE (MKE MOD 238)	ILLUMINATING (M301 A2)	HE (M43 A1 B1)	HE-FRAG (MKE MOD262)
Weight	4820 g	4820 g	4863 g	3253 g	4430 g
Length	500.52 mm	500.52 mm	571 mm	338,33 mm	500 mm
Fuze	AZDM 111 A2	AZDM 111 A2	DM 93	AZDM 111 A2	AZDM 111 A2
Explosive type	-	-	-	-	Comp-B
Filler	TNT	Sorel Cement	Tenvir illumination material	TNT	-
Primer	M34	M34	M34	-	-
Powder	M8	M8	M8	M1A1	M8
Propellant cartridge	MKE MOD30	MKE MOD30	MKE MOD30	-	-
Muzzle velocity	331 m/sec	331 m/sec	173 m/sec	213 m/sec	330 m/sec
Maximum range	6500 m	6500 m	-	3017 m	5745 m

120 mm Mortar Ammunition

TECHNICAL SPECIFICATIONS

TYPE	HE (MSD MOD 209)	TP (MKE MOD 228)	SMOKE HC (MKE MOD 250)
Weight	23900 g	17000 g	18000 g
Length	827 mm	827 mm	827 mm
Explosive type	TNT	Sorel cement	HC
Fuze	M557	M51 A5	VT 7250
Muzzle velocity	365 m / sec	365 m / sec	365 m / sec
Maximum range	8180 m	8132 m	8132 m



TECHNICAL SPECIFICATIONS

TYPE	ILLUMINATING (MKE MOD 236)	PRACTICE (MKE MOD 227)	FOG (MKE MOD 226)
Weight	16000 g	17000 g	18000 g
Length	827 mm	827 mm	827 mm
Explosive type	-	Sorel cement	White Phosphorus
Fuze	M501 (MTSQ)	M557	M51A5
Muzzle velocity	365 m / sec	365 m / sec	365 m / sec
Maximum range	8132 m	8132 m	8132 m

105 mm Gun & Howitzer Ammunition



TECHNICAL SPECIFICATIONS

TYPE	HE (MKE MOD 233)	TP (MKE MOD 234)	HE (M1)	APFSDS-T	TPFSDS-T PRACTICE
Weight	24155 g	24155 g	19000 g	18000 g	18000 g
Length	1028 mm	1028 mm	789 mm	759 mm	972 mm
Explosive type	TNT	Sorel cement	TNT	-	-
Fuze	M557	M73 dummy	M557	-	-
Powder	M1, M6	M1	M1	-	-
Muzzle velocity	683 m / sec	683 m / sec	472.4 m / sec	1485 m / sec	1485 m / sec
Weapon to be used	M48A5-M48T5 Leopard 1 tank	M48A5-M48T5 Leopard 1 tank	M2 A1,M2 A2,M4,M4A1, M49,M103,M137 howitzer	M68 tank or L7 guns	105 mm tank
Maximum range	11000 m	11000 m	11280 m	11280 m	-

155 mm Gun & Howitzer Ammunition

TECHNICAL SPECIFICATIONS

TYPE	HE (M101)	HE (M107)	ERDP (M396)
Weight	43214 g	42972 g	47000 g
Length	702.22 mm	681 mm	862.5 mm
Explosive type	M557	M557	M557
Filler	TNT	TNT	M85 bomblet
Muzzle velocity	853 m / sec	564 m / sec	820 m / sec
Weapon to be used	M2,M2A1, M46 Artillery	-	M44-T,M52-T
Maximum range	23500 m	14590 m	-





8” Howitzer Cannons Ammunition

TECHNICAL SPECIFICATIONS

TYPE	HE (M106)
Weight	92530 g
Length	895.70 mm
Explosive type	TNT
Fuze	M 557
Muzzle velocity	594.7 m/sec
Weapon to be used	M2A1,M2,M47 Howitzer
Maximum range	14640 m

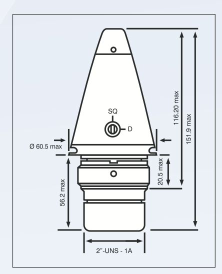


Fuzes for Ammunition

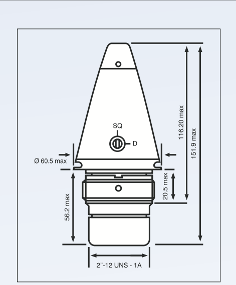


TECHNICAL SPECIFICATIONS

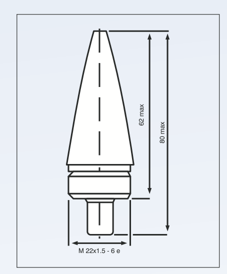
TYPE	MKE MOD 53	KZD 242	AZDM 111 A2	M 51 A5	M 557	M 572
Weight	670 g	46 g201 g	201 g	975 g	975 g	1010 g
Calibers	107 mm RHB	35mm	81 mm	105 mm through	105 mm through	105 mm through
		all dimensions in mm	all dimensions in mm	203 mm all dimensions in mm	203 mm all dimensions in mm	203 mm all dimensions in mm



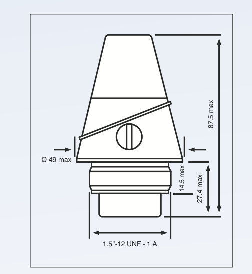
FUZE, M51 A5



FUZE, M572



FUZE, KZD 242



FUZE, AZDM 111 A2

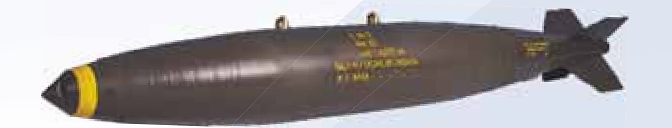
4.5 lb. & 25 lb. Aircraft Practice Bombs



TECHNICAL SPECIFICATIONS

TYPE	4,5 lb (MK 106 MOD1)
Weight	2030 g
Length	495 mm
TYPE	**25 lb (MK 76 MOD 2)**
Weight	10746 g
Length	571.5 mm
TYPE	**25 lb BDU 33 D/B**
Weight	10746 g
Length	571.5 mm

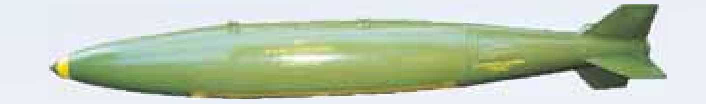
500 lb. Type MK82 Aircraft Bombs



TECHNICAL SPECIFICATIONS

TYPE	500 lb. GP BOMB MK82 MOD1	500 lb. PRE-FRAGMENTED BOMB	500 lb. PRACTICE BOMB
Weight	224 kg	245 kg	224 kg
Length	2268 mm	2280 mm	1632 mm
Explosive type	TNT	-	-
Fuze	M904,M905	M904,M905	M904 (Blind), M905 (Blind)
Filler	-	TNT	Sorel cement

2000 lb. Type MK 84 GP Aircraft Bombs



TECHNICAL SPECIFICATIONS

TYPE	MK84 PRACTICE	MK84
Weight	850 kg	850 kg
Length	2545 mm	2545 mm
Filler	Sorel cement	TNT

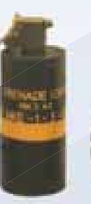
Demolition Blocks



TECHNICAL SPECIFICATIONS

TYPE	½ lb.	1 lb.	2,5 lb.
Weight	260 g	510 g	150 g
Length	93.21 mm	176 mm	445 mm
Filler	TNT	TNT	Comp C4

Hand Grenades


TECHNICAL SPECIFICATIONS

TYPE	MKE MOD 56 RIOT CONTROL	MK2 DEFENCE	MK2 PRACTICE	MK2 MOD 44 DEFENCE	MK2 MOD 46 DEFENCE
Weight	264 g	640 g	565 g	640 g	565 g
Length	175 mm	120 mm	120 mm	120 mm	120 mm
Filler	0C	Comp B	-	TNT or Comp B (35 g)	-
Fuze	-	M204A2 hand grenade fuze	M205A2 or M205A2T1 hand grenade fuze	M204A2 (MKE Mod 45) hand grenade fuze	MOD47 hand grenade fuze

Propelling Charges



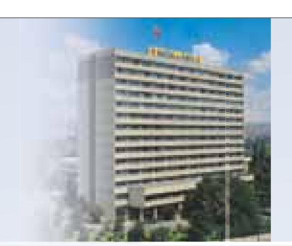
TECHNICAL SPECIFICATIONS

TYPE	8″ M1	8″ M2
Weight	6155 g	13108 g
Length	53.34 cm max	60.96 cm max
Filler	Green with black	White with black

TECHNICAL SPECIFICATIONS

TYPE	155 mm M3A1 (Separate loaded, green bag)	155 mm M4A2 (Separate loaded, white bag)	155 mm M119A1 (Separate loaded, Zone 8)
Weight	2800 g	6342 g	10420 g
Length	40.64 cm max	53.34 cm max	66 cm
Filler	Green with black markings	White with black markings	White with black markings





MKE POWDER FACTORY
KIRIKKALE

MKE Powder Factory consists of Nitrocellulose, powder (cylindrical and ball), plastify lacquer and ether plants. The main duty of the factory is to produce different kinds of powder for artillery ammunitions, mortars, rifles and pistols for Military Defence Industry. In addition; hunting propellants, different kinds of nitrocellulose, plastified lacquer and ether are produced for market.

The powder produced as a single-base, double base and triple base is used for artillery; small and medium calibre ammunition, hunting&sport ammunition, small arms, heavy weapons ammunition. The Ball Powder Production Plant with the capacity of 750 ton/year has been produced since 2006 with different types of ball powder (5,56 mm; 7,62 mm; 12,7 mm; 20 mm and Hunting.)

Additionally, four types of nitrocellulose (Gun, Cotton, Rocket, Dynamite and Lacquer) have been produced according to the standards.

Combustible Case Cartridge production line in the M60A1 Tank Modernization Program will start to production in 2010. MKE Powder Factory is a leader in production of powder and nitrocellulose. Engineering, Research&Development activities are continued in the factory. All of the factory products are produced according to military standards. ISO 9001: 2000 certificate confirms the highest level of the quality management system applications.



AQAP-2120

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DEFENSE INDUSTRY MANUFACTURERS ASSOCIATION

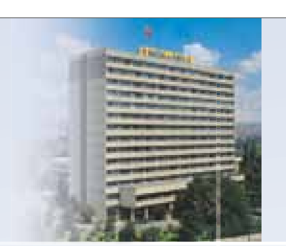
K - Q
TSE-EN-ISO
9001

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WEAPON PRODUCTS
TEAR GAS PRODUCTS
MKE PRODUCTION CHAFF & FLARE AMMUNITION
PYROTECHNIC PRODUCTS
BLASTING DETONATORS
CARTRIDGE PRODUCTS
MKE
MAKİNA ve KİMYA ENDÜSTRİSİ KURUMU
MECHANICAL and CHEMICAL INDUSTRIES CORPORATION
PYROTECHNIC PRODUCTS
PYROTECHNIC PRODUCTS
meeting point of technology and experience
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MKE PYROTECHNICS FACTORY ANKARA

It has the capability of producing all kinds of single cartridges, and rocket igniters.

Duties and goals of MKE Pyrotechnics Factory are;

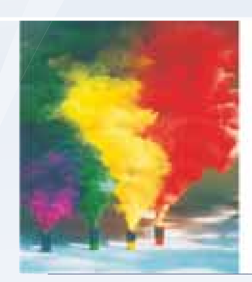
To produce different types of detonators, smoke ammunitions, illumination ammunitions, sound ammunitions, rocket igniters, communication and signal ammunitions, rocket contuntermeasure ammunitions and pyrotechnic ammunitions to meet Turkish Armed Forces needs.

To produce tear gas products, cartridges used in destruction and different types pyrotechnic ammunitions for Gendarme General Commandership and General Directorate of Security.

To produce exploding detonators for Civilian Sector.

To customize all pyrotechnic products according to customer requirements.

The products of which research and development studies are carrying on: Smoke Signal Orange, Ground and Sea Type Flare, Diver Recall, N2 and N12 Training Cartridges, Location Marker, Nonel Detonator, Scissor Fuse and different purposes products.
It is also important that MKE has spared most of its investment for **Chaff and Flare Production Facilities.**





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WEAPON PRODUCTS

1” Signal Pistol



TECHNICAL SPECIFICATIONS	
Weight	1000 g
Barrel length	150 mm
Calibre	26.5

It is used to fire 1" signal and illuminating cartridge.

37/38 mm Gas Gun



TECHNICAL SPECIFICATIONS	
Weight	2300 g
Barrel length	305 mm
Calibre	37 / 38

It is used to fire 37 / 38 mm gas cartridge.

Waterjet Distrupter

TECHNICAL SPECIFICATIONS	
Weight	12 kg
Weight of set	38 kg
Carrying box dimension	800 x 360 x 210 mm
Coating	Phosphate
Ignition cartridge	12.7 mm DLT Waterjet Disrupter Cartridge

It is used to dispose the explosive devices and classical ammunition fuze safely by making them ineffective with forming a waterjet.

TEAR GAS PRODUCTS

Irritating Smoke Hand Grenade



TECHNICAL SPECIFICATIONS	
Weight	350 g
Irritant material	CS or CN
Burning time	Max 25 sec
Effective range	800 – 1000 m2
Delay time	2 – 5 sec

Irritating smoke hand grenade produces a rapid and dense cloud of irritant smoke. It is used in all situations where a fast and effective control is required.

37/38 mm Tear Cartridge



TECHNICAL SPECIFICATIONS	
Weight	130 g
Irritant material	CS or CN
Delay time	Max 3 sec
Range	Min 120 m
Effective rage	Min 300 m2
Burning time	Max 25 sec

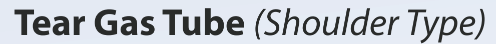
It is used to control crowds. It is launched by 37 / 38 mm Gas gun. It gives tear and irritant smoke.

Tear Gas Spray



TECHNICAL SPECIFICATIONS	
Net Weight	Min 85 g
Irritant material	OC, CN or CS
Effective range	Min 3 m

Tear gas hand spray is an aerosol canister containning an irritant solution under pressure. It is used in close combat situations either as a self-protection device or to subdue active opposition.



Tear Gas Tube *(Shoulder Type)*



TECHNICAL SPECIFICATIONS	
Net Weight	7 kg
Tear gas material	OC, CN or CS
Effective range	15 – 20 m

Tear gas tube is a tube containing an irritant solution under pressure. It is used either as a self-protection device or to subdue active opposition.

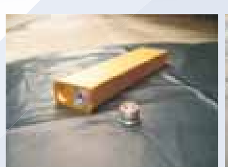
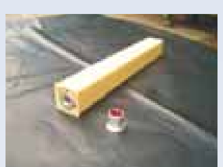
Tear Gas GE Assembly



TECHNICAL SPECIFICATIONS	
Weight	68 g
Burning time	Min 35 sec
Irritant material	CN or CS

Tear gas GE assembly is a part of 40 mm GE MOD 63 ammunition that is launched by a special gun.

MKE PRODUCTION CHAFF & FLARE AMMUNITION


TECHNICAL SPECIFICATIONS	FLARE AMMUNITION (1x1x8)	FLARE AMMUNITION (1x2x8)
Dimensions	1″x 1″x 8″ (25x25x205 mm)	1″x 2″x 8″ (25x51x205 mm)
Pellet	Magnesium/teflon/viton	Magnesium/teflon/viton
Launching velocity	22 m/s (min.)	25 m/s (min.)
Rise time	0.2 s (max)	0.2 s (max)
Intensity	> 10 kw/str	> 20 kw/str
Burning time	2,7 s (min)	3,3 s (min)
Launched dispenser	Özişik, an/ale-40/47 and equivalent	Özişik, an/ale-40/47 and equivalent
Squib	M 796, bbu-35, mke squibs	Bbu-36/b, mke squibs, heko 3670
Similar ammunition	M 206	Mju-7
Service life	6 months	6 months
Storage life	5 years	5 years
Operation temp.	-55 oc - +85 oc	-55 oc - +85 oc

TECHNICAL SPECIFICATIONS	CHAFF AMMUNITION (1x1x8)	DUAL CHAFF AMMUNITION (1x1x8)
Dimensions	1″x 1″x 8″ (25x25x205 mm)	1″x 1″x 8″ (25x25x205 mm)
Frequency range	2-20 ghz (e-j band)	2-20 ghz (e-j band)
Diameter of chaff fibers	28 micron	17 micron
Launched dispenser	özişik, an/ale-40/47 and equivalent	Özişik, an/ale-40/47 and equivalent
Squib	bbu-35/b, heko 3650 and mke squibs	Dual chaff squibs
Service life	5 years	5 years
Storage life	10 years	10 years
Operation temp.	-55 oc - +85 oc	-55 oc - +85 oc

PYROTECHNIC PRODUCTS

Anti-Riot Grenade



TECHNICAL SPECIFICATIONS	
Weight	51 g
Delay time	6 sec
Body material	Styrofoam
Operation type	Friction wire ignition

Anti-Riot Granade is used for military training and disorganization of crowds. When exploded, it gives high sound. Its sound can be heard from 1 km distance.

Tank Smoke Mortar Ammunition



TECHNICAL SPECIFICATIONS	
Weight	1200 g
Electrical resistance	1.0 – 3.5 ohm
Firing current	1.5 A
Range	60 m
Smoke burning time	150 sec
Smoke material	HC
Smoke color	Grey

It is used to camouflage the military vehicle with smoke. It is ignited electrically.

2 Kg Smoke Can



TECHNICAL SPECIFICATIONS	
Weight	1800 g
Burning time	Min 4 min
Smoke material	HC
Smoke color	Grey

It is the smoke can used for camouflage. Ignition mechanism is the friction type.

Assult Boat Type Colored Smoke Can



TECHNICAL SPECIFICATIONS	
Weight	560 g
Burning time	Min 60 sec
Smoke color	Green, voilet, yellow, red

It is used for signalling and communication. It gives colored smoke.

Colored Smoke Can







TECHNICAL SPECIFICATIONS	
Weight	170 g
Burning time	Min 60 sec
Smoke color	Yellow, green, red, violet

It is the can giving colored smoke and used for communication, signalling and demonstration. When drawing the pulling ring, colored smoke mixture is ignited by impact capsule.

1” Signal Cartridge

TECHNICAL SPECIFICATIONS	
Weight	60
Illumination color	Red, green, white
Deployment height	70 m
Illumination time	Min 3 sec
Case	Aluminium

It is used for communication. It gives light with different colors.



1.5”Signal Cartridge

TECHNICAL SPECIFICATIONS	
Weight	145 g
Illumination color	Red, green, white
Deployment height	70 m
Illumination time	Min 4 sec
Case	Aluminium

It is used for communication. It gives light with different colors.



7/8” Signal Cartridge

TECHNICAL SPECIFICATIONS	
Weight	30 g
CaseAluminium	Aluminium
Illumination color	Red, green, white
Deployment height	70 m

This cartridge is produced for communication. It gives light with different colors and it is launched by a special pistol.



Flare Surface Trip

TECHNICAL SPECIFICATIONS	
Weight	490 g
Illumination tim	Min 45 sec
Illumination intensity	Min 200.000 candela
Flame height	1 m
Illumination color	Yellow

It is used to illuminate the field to be secured.
When the flare is activated by the trip wire, a pyrotechnic illuminant mixture is ignited immediately.



Hand - Held Illumination Rocket *(Efar)*

TECHNICAL SPECIFICATIONS	
Weight	424 g
Illumination time	35 sec
Flight Distance(45°)	600 m
Illumination intensity	110.000 candela

Hand – held illumination Rocket is used in any situation where illumination and communication are required.
Because of product property, it can be used for millitary



MK4 MOD3 Smoke Cartridge

TECHNICAL SPECIFICATIONS	
Weight	48
Color	White
Case	Aluminium

It is used by mounting to the training bomb which is activated by hitting the target result in dense white smoke.



Submarine Signal With Parachute

(smoke / Illumination)



TECHNICAL SPECIFICATIONS	
Weight	1840 g
Smoke color	Yellow, red, gren
Burning time	Min 25 sec
Shooting depth	Max 300 m
Height from sea level	Min 70 m
Ignition type	Water activation battery
Green light intensity	Min 18.000 candela
Yellow and red light intensity	Min 50.000 candela

It is ejected from submarines and is used for communication in night and daytime.
It gives colored light and smoke while landing by parachute.

BLASTING DETONATORS
Copper Electrical Detonator



TECHNICAL SPECIFICATIONS	
Shell	Aluminium
Cable	Electrolytic copper wire coated with PVC
Legth of cable	1.5 and 2.5 m
Detonation velocity	Approximately 7500 m / sec
Blasting power	It makes a hole with a diameter of min 5 mm on lead plate which has a thickness of 5 mm.
Fusehead resistance	1.0 – 1.8 ohm
Firing impulse	3 mWs / ohm
No-firing impulse	0.8 mWs / ohm
Safety current	0.18 A.DC
Recommended firing current	1.0 A.
Delay time	Instantaneous
Grizu safe	Safe
Strength	No.8

It is a detonator which has electrically ignitable fusehead by the action of dynamo type or condenser type exploder. It is used to explode the permitted explosives in the glass and dusty mines(coal mines etc.)
Tube material is copper .It can be manufactured at the desired cable length.

Aluminium Electrical Detonator



TECHNICAL SPECIFICATIONS	
Shell	Aluminium
Cable	Electrolytic copper wire coated with PVC
Legth of cable	1.5 and 2.5 m
Detonation velocity	Approximately 7500 m / sec
Blasting power	It makes a hole with a diameter of min 5 mm on lead plate which has a thickness of 5 mm.
Fusehead resistance	1.0 – 1.8 ohm
Firing impulse	3 mWs / ohm
No-firing impulse	0.8 mWs / ohm
Safety current	0.18 A.DC
Recommended firing current	1.0 A.
Delay time	Instantaneous
Grizu safe	Unsafe
Strength	No.8

It is a detonator which has electrically ignitable fusehead by the action of dynamo type or condenser type exploder. It is used to explode dynamite and similar explosives in the open mines. Tube material is aluminium. It can be manufactured at the desired cable length.

Aluminium Electrical Detonators With 30 ms Delay Invertal

TECHNICAL SPECIFICATIONS	
Shell	Aluminium
Delay number	1-16
Marks on the bottom of cap	1 / K – 16 / K
Delay time	30 – 480 ms
Cable	Electrolytic copper wire coated with PVC
Legth of cable	1.5 and 2.5 m
Detonation velocity	Approximately 7500 m/sec
Blasting power	It makes a hole with a diameter of min 5 mm on lead plate which has a thickness of 5 mm
Fusehead resistance	1.0 – 1.8 ohm
Firing impulse	3 mWs / ohm
No-firing impulse	0.8 mWs / ohm
Safety current/ Recommended firing	0.18 A.DC
Current	1.0 A
Grizu safe	Unsafe
Strength	No.8



It is a detonator which has electrically ignitable fusehead by the action of dynamo type or condenser type exploder with delay time. They are used to blast dynamite and similar explosives at desired intervals and sequence,to obtain a good and uniform fragmentation, the desired particule size, to decrease vibration and to increase the yield of the blasting in the great blasting operations. It can be manufactured at the desired cable length.

Aluminium Electrical Detonators With 500 ms Delay Interval

TECHNICAL SPECIFICATIONS	
Shell	Aluminium
Delay number	1-10
Marks on the bottom of cap	K1 – K10
Delay time	500 – 5000 ms
Cable	Electrolytic copper wire coated with PVC
Length of cable	1.5 and 2.5 m
Detonation velocity	Approximately 7500 m /sec
Blasting power	It makes a hole with a diameter of min 5 mm on lead plate which has a thickness of 5 mm.
Fuse head resistance	1.0 – 1.8 ohm
Firing impulse	3 mWs / ohm
No-firing impulse	0.8 mWs / ohm
Safety current	0.18 A.DC
Recommended firing Current	1.0 A.
Grizu safe	Unsafe
Strength	No.8



It is a detonator which has electrically ignitable fusehead by the action of dynamo type or condenser type exploder with delay time. They are used to blast the dynamite and similar explosives at desired intervals and sequence, to decrease the vibration and to increase the yield of the blasting in the tunnelling, especially. It can be manufactured at the desired cable length.

Nonelectrical Detonators *(Plain Detonators)*

TECHNICAL SPECIFICATIONS	
Shell	Aluminium
Detonation velocity	Approximately 7500 m /sec
Delay time	Instantaneous
Grizu safe	Unsafe
Blasting power	It makes a hole with a diameter of min 5 mm on the lead plate which has a thickness of 5 mm
Strength	No.8



This type detonator is used as igniter to initiate the dynamite and similar explosive in barrage, road and mining constructions.It is ignited with a safety fuse which is crimped by a special pens. It explodes with delay depends on the used fuse length, respectively.

Copper Electrical Detonator With 30 ms Delay Interval

TECHNICAL SPECIFICATIONS	
Shell	Copper
Delay number	1-16
Marks on the bottom of cap	1 / K – 16 / K
Delay time	30 – 480 ms
Cable	Electrolytic copper wire coated with PVC
Length of cable	1.5 and 2.5 m
Detonation velocity	Approximately 7500 m/sec
Blasting power	It makes a hole with a diameter of min 5 mm on lead plate which has a thickness of 5 mm
Fusehead resistance	1.0 – 1.8 ohm
Firing impulse	3 mWs / ohm
No-firing impulse	0.8 mWs / ohm
Safety current	0.18 A.DC
Recommended firing current	1.0 A.
Grizu safe	Safe
Strength	No.8



It is a detonator which has electrically ignitable fusehead by the action of dynamo type or condenser type exploder with delay time. They are used to blast dynamite and similar explosives at desired intervals and sequence, to obtain the desired particule size, to decrease the vibration and to increase the yield of the blasting in the gassy and dusty mines, especially. It can be manufactured at the desired cable length.

CARTRIDGE PRODUCTS AVF 1 MOD 1 Impulse cartridge

TECHNICAL SPECIFICATIONS	
Weight	33.4 g
Electrical resistance	0.4 – 1.25 ohm
No-fire sensitivity	Max 850 mA.DC,5 min
Firing current	Min 4A
Maximum pressure	Min.140 bar
Maximum pressure time	Max.20 m/sec
Ignition delay time	Max.25 m/sec
Sealing	10 psi,5 sec

It is used for removing of load and bombs from the plane.



AVF MOD 1 Chaff Squib

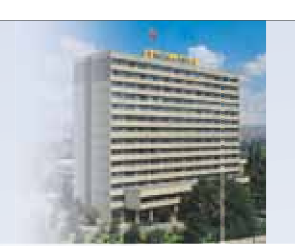
TECHNICAL SPECIFICATIONS	
Weight	4.35 g
Electrical resistance	0.5 – 1.0 ohm
Ignition time	Max 45 m/sec
Maximum pressure	Min 12 bar
No-fire sensitivity	Max.180 mA.DC,1 min
Firing current	Min.3 A
Sealing	35 cm Water column, 4 hours



It is a cartridge used for ejection of Chaff Ammunition which protects aircrafts and helicopters against radar guided missiles.


MKE T-41 *Semi Automatic Hunting Rifle*
MKE T-43 *Semi Automatic Hunting Rifle*
MKE T-94 A2 *Semi Automatic Hunting Rifle*
MKE T-94 A3 *Semi Automatic Hunting Rifle*
MKE T-94 SD A2 *Semi Automatic Hunting Rifle*
MKE T-94 P *Semi Automatic Hunting Rifle*
MKE T-94 K *Semi Automatic Pistol*
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MKE SMALL ARMS WEAPON FACTORY KIRIKKALE

MKE Small Arms Weapon Factory has been producing to meet Turkish Armed Forces long barrel small arms weapon requirements, Security General Directorate weapon requirements, foreign weapon orders and domestic private security organizations weapon requirements.

The production range of the factory includes all kinds of pistols, rifles, submachine guns and all barrels are produced by the method of cold forging.

MKE Small Arms Weapon Factory is providing, applying and continuing TS EN ISO 9001:2008 Quality Management System and AQAP 2120 Quality Assurance System requirements for its manufacturing and productions.

The Factory's plants and facilities are capable of high quality production with CNC machines cold forging machines, heat treatment plant, plating plant, shooting range and calibration centre.





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MKE T-41 Semi Automatic
Hunting Rifle





MODELS: *Black • Wooden • Camouflage*

TECHNICAL SPECIFICATIONS

MKE T-41 SEMI AUTOMATIC HUNTING RIFLE

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Weight	Firing type
7,62 mm x 51	10 rounds	Single	4 grooves	600 / 450 mm	4600 g (600mm)	Semi automatic

MKE T-43 Semi Automatic
Hunting Rifle



TECHNICAL SPECIFICATIONS
MKE T-43

SEMI AUTOMATIC HUNTING RIFLE

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Weight	Firing type
5,56 mm x 45	10/15 rounds	Single	6 grooves	431 mm	3900 g	Semi Automatic

MKE T-94 A2 Semi Automatic
Hunting Rifle



TECHNICAL SPECIFICATIONS

MKE T-94 A2 (9mm x 19) SEMI AUTOMATIC HUNTING RIFLE

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Firing type
9 mm x 19	10/15 rounds	Single	6 grooves	420/320/225 mm	Semi Automatic

TECHNICAL SPECIFICATIONS

MKE T-94 A2 (9mm x 21) SEMI AUTOMATIC HUNTING RIFLE

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Total length	Weight	Firing type
9 mm x 21	15/30 rounds	Single	6 grooves	225 mm	710 mm	3015 g	Semi Automatic





MKE T-94 A3 Semi Automatic
Hunting Rifle



TECHNICAL SPECIFICATIONS

MKE T-94 A3 — SEMI AUTOMATIC HUNTING RIFLE

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Total length	Weight	Firing type
9 mm x 19	10/15 rounds	Single	6 grooves	420/320/ 225 mm	690/825 mm	2800 g	Semi Automatic

MKE T-94 SD A2 Semi Automatic

Hunting Rifle



TECHNICAL SPECIFICATIONS

MKE T-94 SD A2 — SEMI AUTOMATIC HUNTING RIFLE

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Total length	Weight	Firing type
9 mm x 19	10/15 rounds	Single	6 grooves	146 mm / 420 mm	880mm	3750 g	Semi Automatic

MKE T-94 P Semi Automatic
Hunting Rifle



TECHNICAL SPECIFICATIONS

MKE T-94 P SEMI AUTOMATIC HUNTING RIFLE

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Total length	Weight	Firing type
9 mm x 19	10/15 rounds	Single	6 grooves	420 mm	660 mm	2700 g	Semi Automatic

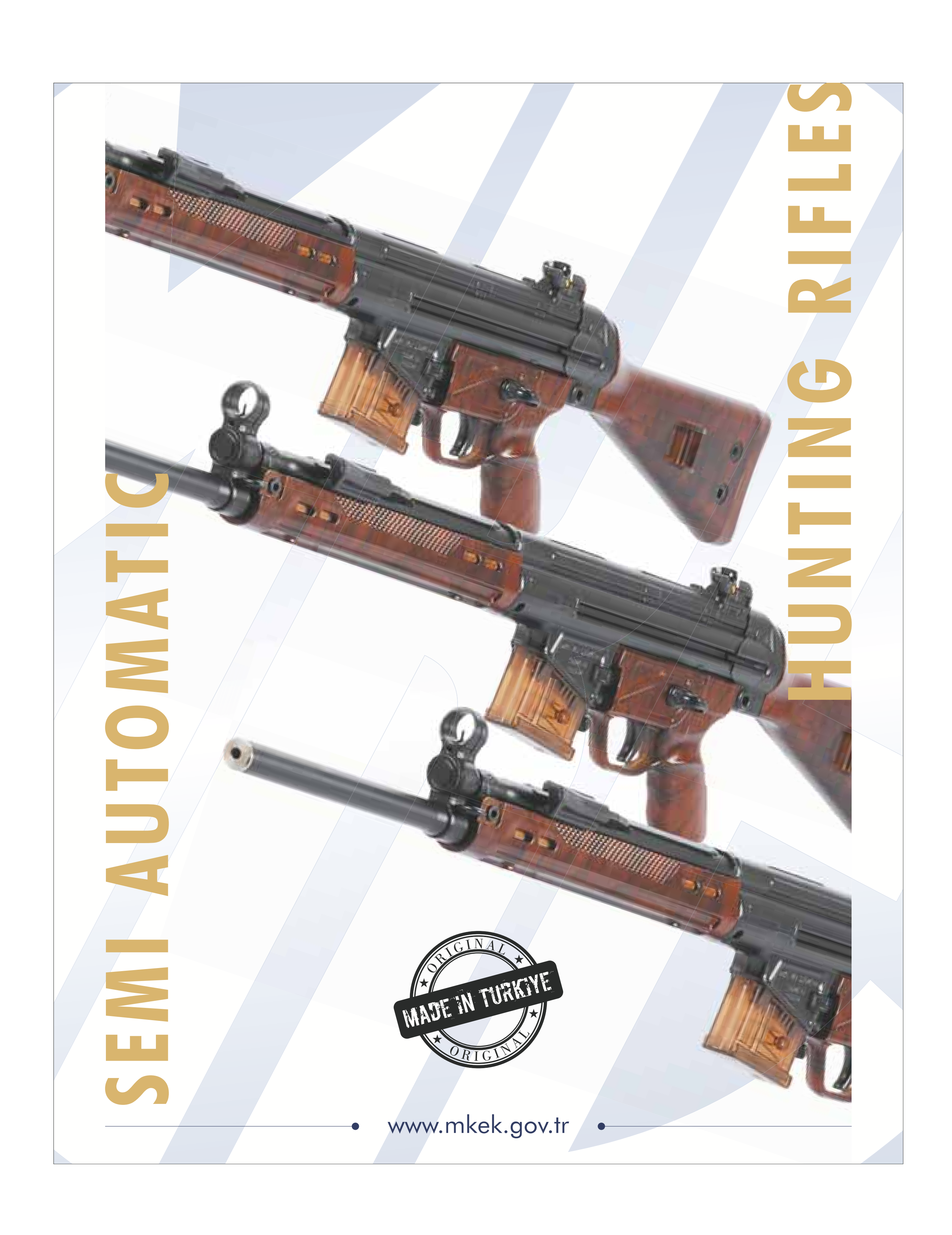
MKE T-94 K Semi Automatic Pistol



TECHNICAL SPECIFICATIONS

MKE T-94 K SEMI AUTOMATIC PISTOL

Calibre	Magazine capacity	Firing type	Rifling	Barrel length	Total length	Weight	Firing type
9 mm x 19 9 mm x 21	30 rounds	Single	6 grooves	115,6 mm	325 mm	2000 g	Semi Automatic


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